ECHNOLOGY DEPT:

NATIONAL PETROLEUM NEWS

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DETROIT

Civilians Must Get Tires, Baruch Report Emphasizes

WASHINGTON—Findings of the Baruch committee, appointed by President Roosevelt to dig into the facts of the U. S. rubber problem, are reported in NPN in full this week. Significant is the Baruch committee's recognition of the private auto's importance; its criticism of government for taking a you-can't-have-any attitude on civilian tires. Briefly, the report recommended: a civilian tire recapping program; "bulling through" on present synthetic rubber program without further substitutions of processes; increased synthetic rubber production; centralization of rubber authority under a Rubber Administrator; compulsory tire inspection; reduced driving to average 5000 miles yearly—this to be controlled by nationwide gasoline rationing. Full text of report, p. 21; general story, p. 5; refining story, p. 12.

Let 1 Man Be Boss, Ickes Tells House

WASHINGTON — Coordinator Ickes on Sept. 10 told the Fitzgerald committee of the House—and committee members agreed—that there would be less confusions all around if wartime oil industry control were vested in one man. Committee members hit "inconsistency" of orders issued by government agencies affecting oil industry. Page 5.

Chemists Hear Formula For Getting Rubber

BUFFALO, N. Y.—Technologists announced many improvements in the manufacture of synthetic rubber at the American Chemical Society meeting here Sept. 7-11 (*see other story p.* 11). But the means for securing supplies for Americans that received the most applause was given in poetic formula at the A. C. S. dinner, Sept. 9:

I think that I shall never see
A tire nosired by a tree.
A tube without a patch or hole
Whose ancestry is Thiokol;
Or heels to ease pedestrian stress
Well wrought from good old Buna S.
Our streets with grass soon will be green
While Congress argues butadiene.
To dream of tires made from Butyl
Is pleasant, but it's also futile.
Let's rubber seize from Japanese,
Not vainly wait for RFC's.

NEWS BRIEFS

NPN interviews Deputy Coordinator Davies as he looks down road at oil's future. Page 2.

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OPA clarifies rules on pricing new products. Page 6.

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WPB issues more restrictions on steel barrel use. Page 6.

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Building steel "specs" on U. S. contracts set by WPB. Page 6.

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Finds Southwest to Indiana asphalt rail rates too high. Page 19.

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RFC to finance trans-Ohio. Plantation pipeline extensions. Page 19.

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Oil movement by rail to East increases. Page 19.

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Texas considers putting allowables on lease basis. Page 14.

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Senate committee rejects proposal on depletion tax. Page 14.

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Canada exempts tank trucks from 35-mile order. Page 16.

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No permits needed to ship oil into port areas, ODT says. Page 16.

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Moore says marketers have 3% of all scrap metal. Page 4.

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Ickes needs more power, Frey tells marketers' meeting. Page 4.

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OPA considers giving more gasoline to salesmen. Page 6.

BULLETINS

FUEL OIL RATIONED

WASHINGTON — Fuel oil will be rationed by coupons in 17 eastern states and Minnesota, Wisconsin, Illinois, Indiana, Michigan, Ohio, Missouri, Iowa, Kansas, Nebraska, North and South Dakota and Kentucky. Consumption may be cut as much as 25% below normal.

Effective date of rationing in these states had not been set Sept. 15. Coupon system is to vary between different regions.

Any fuel oil tank used for heating, cooling or water heating equipment in a private dwelling may be filled between Sept. 16 and 30 provided capacity is not more than 275 gal. In other than private dwellings, fuel storage tanks may be filled to 50% of capacity between Sept. 16 and 30.

Deliveries may be made after Oct. 1 only if supplier receives promise from purchaser that he will surrender coupons when issued.

'VICTORY' GRADES?'

WASHINGTON—At a meeting of far-reaching consequences, Deputy Coordinator Davies told eastern suppliers here Sept. 15 that more oil would have to be hauled to the East in the same number of tank cars, and that the industry would have to take drastic steps to improve tank car efficiency. Elimination of some terminals and dropping of fuel oil trade names for the duration might be necessary.

Looking even farther ahead, OPC officials said it might be necessary to standardize specifications on gasoline, fuel oil and kerosine.

Trainloads are only accounting for 20% of present rail movement to East and this must be pushed up near 100%, said Davies.

ODT-OPA Wrangle Over 'Gas' Ration

WASHINGTON—Despite Baruch committee recommendation that nationwide gasoline rationing be determined by ODT and administered by OPA subject to ODT's direction, OPA has stepped in assuming job is all in its bailiwick. ODT Director Eastman, his back up, has both feet down firm in the "who's to do it" tug-of-war between the two war agencies. Page 3.

WPB Ups Ratings In New P-98 Order

WASHINGTON — Preference Rating Order P-98, expiring Sept. 15, is reissued by WPB with ratings upgraded to A-1-a and A-2 for materials and equipment needed by production branch; same ratings for other branches for repair and maintenance materials. PD-200 plays big part. Page 3.

ODT Truck Control

WASHINGTON—ODT will start mailing Sept 23 the application blanks for Certificates of Necessity as required of all trucks by ODT Order No. 21, effective Nov. 15. Exact application of ODT's order to tank and transport trucks remains vague, but ODT's powers, under the order, are broad. Page 16.

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QUALITY TOKHEIM

ALL OUT FOR VICTORY

— BUT NO BLACKOUT OF SERVICE!

TOKHEIM'S battle cry, "All Out For Victory," is not an empty slogan. For nearly three years now, Tokheim has been building in ever-increasing quantities many vital tools of war for the United States and her allies. Yet this all-out victory effort by no means imposes a blackout of the traditional Tokheim service policy. Service offices and personnel are being maintained at high efficiency in cities throughout the country for the benefit of Tokheim customers. Parts, repairs, and even pumps, under government regulations, are still available. If, because of age, accident, wear, or for any other reason your pumps will no longer operate satisfactorily, don't assume there is no solution. Call your Tokheim representative. He will see that your pumps are put in working order, and may even be able to supply you with new pumps.

To help you prolong the life of your pumps, Tokheim has published this 56-page illustrated booklet. Write for a copy, no charge.

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FUEL AND ENGINE RESEARCH IS NOT "AS USUAL"

AT THE TIME when the new Ethyl laboratories were planned, the clouds of war were but a tiny speck on the horizon—too small to be noticed by the great majority of Americans. But as construction proceeded it became more and more apparent to its builders that the 26-acre plant at Eight Mile Road, Detroit, might soon have to devote some of its facilities to problems of military fuels and engines.

Then came Pearl Harbor.

Immediately all plans for research to improve civilian vehicles and fuels were shelved and all the facilities of the then nearly completed plant were offered to the Government. Today, in cooperation with the technologists of the automotive, aviation and petroleum industries, Ethyl engineers are working to help give American motorized equipment the extra power, efficiency and dependability that are all-important in modern warfare.

We believe that winning the war is the prime job of every American. But, because we have an unbounding faith in the ability of our country to crush aggression, we are trustfully looking forward to the days when the grim lessons of war can be translated into progress in peacetime transportation.

★ ★ ★

ETHYL CORPORATION
Chrysler Building, New York City

★ ★ ★ *Manufacturer of antiknock fluids used by oil companies to improve gasolines* ★ ★ ★

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Ralph K. Davies... Urges Greater, Voluntary Coordination of Oil

"The future of the petroleum industry is being determined right now."

And, long before bombs cease falling in this global war, an even greater degree of co-operation and coordination on the part of oil men, as well as accelerated consolidation of oil industry equipment and facilities, will be necessary.

It's even possible that trade names on certain petroleum products, which the government realizes have been built at the cost of millions of dollars, may be forced to take a back seat for the duration.

This is the firm belief of Deputy Petroleum Coordinator Ralph K. Davies who points out that in view of the coming need for this type of "medicine", the petroleum industry now has a chance to administer the bitter pill itself, rather than wait until it is ordered by the Army or some government agency unacquainted with the oil industry's many, detailed and intricate problems.

Office of Petroleum Coordinator hopes to encourage the oil industry to continue working out its own problems on a voluntary basis—and to work them out to such a degree that the public will look upon this vast industrial giant as the U. S. Oil Industry, rather than a number of single units during the war period.

This prospect is, in some respects, not pleasant, Mr. Davies admits. But it is, so to speak, in the cards; if the oil industry plays its cards wisely, by acting on the proposed voluntary basis, less grief will result, he says.

Possibility of a single grade of gasoline (maybe the long-heralded "Victory" grade) for general purposes and the complete elimination of cross-hauling as the war goes on and shortages of materials and manpower force greater unit operations. The inter-industry problem of pooling marketing, refining, producing and transportation equipment and facilities can and must be worked out more effectively, Mr. Davies believes.

While wartime expediency is the main reason why the petroleum industry will be forced to serve under a total war program, as outlined above, the manner in which this is voluntarily done may have postwar effects, the Deputy Coordinator hopes.

"For while OPC is only a wartime agency," he says, "the oil industry and government are learning a lot about each other that will suggest a future course when war is over."

OPC is well organized, and, "barring jurisdictional interference, we are well prepared to do a first class wartime job," he says in a firm tone.

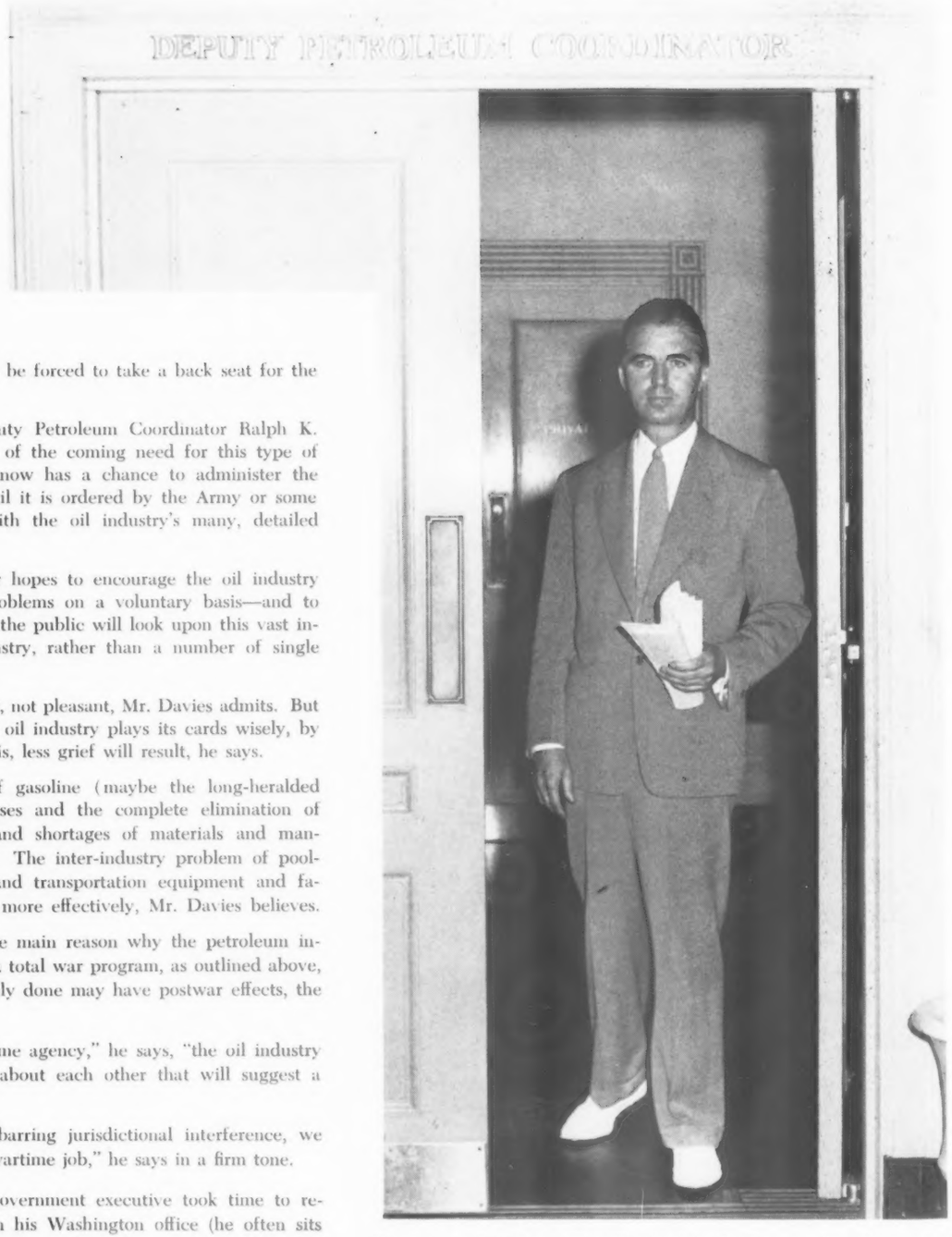
When and if this oil industry-government executive took time to relax in a high-backed leather chair in his Washington office (he often sits on the edge of his chair and leans on the desk when conversing), he could recall the day in 1912 when "California Standard needed an office boy and I needed a job."

Within the next few years, this office boy became shipping clerk, assistant foreman, bookkeeper, assistant cashier, collector, dispatcher, office salesman and special assistant to the district sales manager at Fresno, Calif.

In 1929, he was named vice-president in charge of sales and about the same time was loaned to the Anglo-American Oil Co. and went to London to reorganize this company.

This was not his only experience abroad, as shortly after this, he traveled through England, France and Germany on company business.

Keeping his finger on the pulse of all oil industry problems, Mr. Davies insists on hiring only competent men and then calling frequent staff meetings to find out what they are doing. His practically around-the-clock working habits and consequent numerous assignments keep three assistant deputy petroleum coordinators and several special assistants at their desks long after dark.



En route to Petroleum Coordinator Ickes' office, at the other end of the New Department of Interior building's sixth floor, Deputy Petroleum Coordinator Ralph K. Davies is shown on a typical trip with several papers which he and Mr. Ickes will study

Like most "Californians", Mr. Davies was born in another state —in this case, Virginia. The town: Cherrydale.

Mr. Davies is married and has three daughters, ages 8, 10 and 12. Before the war, he spent a portion of every summer with his family at their mountain home on Rubicon Beach, Lake Tahoe, which borders California and Nevada.

Since Mr. Davies took over his job as Deputy Petroleum Coordinator in June, 1941, he's found time to go home to California only once—last Christmas when he was there for two days.

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WPB Ups Ratings In New P-98 Order

NPN News Bureau

WASHINGTON—P-98, the general priorities order for oil industry, has been revised, with higher ratings assigned.

Briefly, the new order will provide:

A-1-a and A-2 ratings for all materials and equipment required by production branch, and for other branches as to maintenance and repair items and operating supplies. For new construction, branches—other than production—apply on PD-200 form. (The term "other branches" includes natural gasoline manufacturing.)

A-1-a application for materials costing more than $500 must be filed with OPC and approved by WPB. A similar application, for materials costing less than $500, will need only the counter-signature of OPC district office.

An A-2 rating application for over $500 requires only countersignature. A-2 applications for less than $500 require no countersignature and rating can be applied directly to supplier.

To expedite matters, suppliers should be asked what rating was currently required to obtain needed materials.

If an assigned rating proves insufficient to obtain the needed materials for an operator, he may apply to OPC for a higher rating, using form PD-1-a.

Increase of breakdowns, operators may write or telegraph OPC requesting a rating high enough to obtain needed repair parts.

California Sets Rules For Labeling Oil

NPN News Bureau

LOS ANGELES — The State of California is cracking down on the labeling of lubricating oils.

Blenders and jobbers have been told that from now on when a lube oil is labeled "Eastern" it will mean oil produced east of California.

If oil is labeled "100% Pure Paraffine Base," it will mean oils which meet specifications of Mid-Continent and Pennsylvania oils.

If the label says "Paraffine Base," the oil must have a viscosity index of 50 or better.

If the term "Mid-Continent" is used it must be oil produced in the Mid-Continent area.

Billion Tire Miles Are Wasted—OPA

NPN News Bureau

WASHINGTON—OPA Chief Henderson has said a "billion tire miles" are being wasted daily on what he called non-essential driving. Inquiry by *NPN* as to where this figure originated brought following reply from OPA's press section:

Some government agency (unnamed) made a survey last spring and estimated that the average driver was traveling 8100 miles a year. So, when the Baruch committee said that average mileage should be reduced 5000 miles, they subtracted this total from the 8100. That gave the "waste" mileage. Multiplying by 4 (number of tires) and then by number of cars gave the "billion tire miles."

Baruch committee reported that average car mileage had been reduced from 9000 miles to an average of 6700 at present.

The OPA spokesman did not explain why OPA had used the Baruch report's 5000-mile figure, and ignored the 6700-mile figure, choosing instead an earlier figure (8100) on average mileage.

Frey to Speak at Meetings On Jobber's Part in War

NPN News Bureau

WASHINGTON—Two more meetings with petroleum jobbers to discuss how they can take a more active part in the war effort have been scheduled. OPC's special assistant, Dr. John W. Frey, will speak at both meetings. Details follow:

On Sept. 21-22, Virginia, West Virginia, North Carolina, South Carolina, Florida, Kentucky and Tennessee jobbers meet at the George Vanderbilt Hotel at Asheville, N. C.

On Sept. 30-Oct. 1, Illinois, Indiana, Wisconsin, North Dakota, South Dakota, Minnesota, Michigan, Ohio, Missouri, Kansas, Iowa and Nebraska jobbers meet at the Blackstone in Chicago.

At these meetings (a similar one was held in New York City, Sept. 8) jobbers are asked what help, if any, is needed to permit them to reach a maximum war effort.

Eastman-Henderson in Row Over Who's to Ration 'Gas'

By A. M. PETTY, News Editor

WASHINGTON—Just what will be the form of nationwide gasoline rationing—or rationing mileage, as President Roosevelt prefers to call it—depends on whether ODT Director Eastman or OPA Chief Henderson wins the tug-of-war now going on.

Baruch committee recommended a "new" type of gasoline rationing to implement its suggestion that automobile mileage be held down to an average of 500 miles yearly. But the Baruch report didn't go into detail.

Gasoline rationing on East Coast has been simply rationing of a scarce commodity. Policies have been determined by OPA which has administered it through a coupon system. In other words, each "A" book holder got 4 gal. weekly —3.69 gal., to be exact— and it made no difference whether the car was a 12-cylinder or a 4-cylinder jallopy.

Had Clashed Earlier

OPA's coupon system was put into effect only after a bitter clash between Eastman and Henderson prior to inauguration of eastern coupon rationing.

Mr. Eastman's ODT had worked up a rationing plan that approached the problem from transportation standpoint. OPA was to administer the ODT plan with ration coupons.

Story is that Mr. Henderson at last minute objected, saying that he wanted all or none of gasoline rationing; that he wanted to determine the overall policies as well as administer the details. With that, ODT officials were thunderstruck. Mr. Eastman "told off" Mr. Henderson in no uncertain terms. Then the ODT director tossed—almost literally—the matter into Mr. Henderson's lap.

So OPA Went Ahead

OPA then went ahead rationing gasoline as a commodity, ignoring the transportation angle. And for this, OPA was soundly criticized—though not by name—in the Baruch report which hit the failure to develop a tire replacement plan for civilian cars.

Mr. Eastman, as ODT director, was then—as now—operating under an executive order which made him the policy-maker for rubber-tired transportation. And this order was broad enough to cover gasoline rationing.

This time Mr. Eastman apparently is determined to meet the Henderson challenge headon, especially since the Baruch committee has taken same position on gasoline rationing as ODT has long advocated.

ODT's Approach

ODT approaches the problem from the positive side. ODT believes that the passenger car is backbone of nation's transportation system; that the nation's wartime economy requires continuance of this form of transportation. So, ODT would determine the minimum essential mileage that each vehicle must travel, then provide enough gasoline and tires for that purpose. That is the same attitude taken by the Baruch committee.

OPA still has a negative approach —that is, the depriving of civilians

(*Continued on page 7*)

Rationing Threat Reactions Varied

NPN News Bureau

CLEVELAND — President Roosevelt's announcement of the proposed nationwide rationing of gasoline has been met with mingled emotions all over the country; but nowhere has it been joyfully received.—Ed.

° ° °

Special to NPN

AUSTIN — Governor Coke Stevenson announced Sept. 14 that he had registered official protests on the proposed gasoline rationing with Leon Henderson, Sen. Tom Connally and Speaker Sam Rayburn.

"I am still against rationing," Gov. Stevenson said when first advised of President Roosevelt's ac-

(*Continued on page 4*)

Rationing Threat Reactions Varied

(*Continued from page 3*)

tion. "It is not necessary in Texas because of a lack of transportation facilities and it won't save rubber. Gasoline bootleggers will supply the trade and the result will be that the state and federal governments will lose the revenue."

Gov. Stevenson said Texas would give "very grudging submission" if rationing goes through.

Meantime, R. L. Bobbit, of State Highway Officials Assn., said all 12 states in the association have officially protested rationing.

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Special to NPN

INDIANAPOLIS — Nationwide gasoline rationing is disturbing the Hoosiers no end, according to the "Hoosier Independent", publication of the Indiana Independent Petroleum Assn.

The consensus seems to be that cutting out speeding will do the trick of rubber conservation far better than rationing gasoline. In fact, it is the opinion of the Mid-West that the proposed rationing program will waste more rubber than it will save, "since too many cars will be stored and their tires will deteriorate more rapidly than through proper use," the publication stated.

A top speed of 35 m.p.h. is suggested as "the American way of conserving rubber", with violators of the speed laws being required to sell their tires to the government as a penalty. The lowered speed laws—going down to 20 m.p.h. if necessary—might even allow stop and go lights to be eliminated, it is said, as well as stop streets.

Indiana and the Mid-West, the "Hoosier Independent" said, feel that the eastern pressure has dictated the proposed rationing and they resent it.

° ° °

NPN News Bureau

LOS ANGELES — California's attitude to the President's announcement is one of apprehension. The public is afraid of a bottleneck in transportation, since the state is short on such facilities compared with the East.

In a city like Los Angeles, 80% to 85% of the working people live farther from their work than the basic A ration would allow them to drive. They cannot all turn to public conveyances since present equipment cannot possibly meet such a load.

There is considerable agitation under way at the moment, therefore, to have the basic ration for California and other western states somewhat larger than in the eastern area.

Oil men also fear that it will become necessary to store great quantities of gasoline as the consumption declines since refineries must continue to run crude in order to extract fuel oil. Several oil companies are considering ways and means of pumping gasoline back into the ground for storage; and some have predicted a serious shortage 30 days after rationing goes into effect.

Texas Democrats Oppose Gasoline Rationing

Special to NPN

AUSTIN—The Texas Democratic state convention, meeting here Sept. 7-8 to adopt a platform for the party, included planks stating that the "sovereign state of Texas must keep complete control of its oil and other natural resources," and that the party is "unequivocally opposed" to gasoline rationing in Texas and other oil-producing states.

Compact Meeting to Study Natural Gas Uses

Special to NPN

OKLAHOMA CITY—Present and future utilization and conservation of natural gas will be the topic of the next quarterly meeting of the Interstate Oil Compact Commission, to be held at the Palmer House in Chicago, Oct. 1-3, according to Charles L. Orr, secretary.

Speakers and subjects include Dr. Gustav Egloff, Chicago, director of research for Universal Oil Products Co., on gas utilization for synthetic products; N. C. McGowen, Shreveport, president of United Gas Pipeline Co., and chairman of OPC's District 3 Natural Gas Committee, on expanding pipeline facilities for industrial and domestic use; G. L. Brennan, Tulsa, manager of liquefied petroleum gas division of Warren Petroleum Co., on development of liquefied petroleum gas industry; Ralph E. Davis, Pittsburgh consulting engineer, on gas reserves; and R. A. Cattell, chief engineer of Petroleum and Natural Gas Division of the Bureau of Mines, on the Bureau's research work.

O. T. Anderson Dies

O. T. Anderson, 70, capitalist and oil operator, died in a Dallas hospital. Funeral services were held on Sept. 11.

Mr. Anderson built the first oil refinery in the Olney area 20 years ago, and had large oil and ranch interests in Young, Archer, and Wichita counties.

Marketers Have 3% of All Scrap, Moore Maintains

Special to NPN

TRENTON —Petroleum marketers can easily supply some 3% of the 17,000,000 tons of scrap metal needed by Dec. 31, according to G. Denny Moore, managing director of Gasoline Pump Manufacturers Assn.

In his speech to the New Jersey Weights and Measures Assn. convention here on Sept. 9, Mr. Moore estimated that the quantity of scrap metals "available in the marketing division of the petroleum industry ranges from one-quarter of a million to a half-million tons. It remains for the marketers, the equipment manufacturers and the Weights and Measures organizations" to harvest the crop, he said.

Specifically, Mr. Moore told the convention that "of the million and a half gasoline pumps in use, half of them are from 12 to 25 years old . . . are completely obsolete as to type . . . and of such poor operating ability as to warrant immediate conversion into scrap and salvage." These 750,000 "antiques," he figured, "will yield 6000 tons of brass and copper; 66,000 tons of cast iron; 48,000 tons of steel; and 2000 tons of aluminum."

Junk from Closed Stations

Similarly, other service station and bulk plant equipment such as tanks, lifts, compressors, drums, lubsters and greasing equipment should be "eliminated entirely in those marketing outlets that are being closed down in this indeterminate period of curtailed motor transportation." Mr. Moore estimated that "from 30,000 to 60,000 tons more" scrap would come from this source—"a very conservative estimate considering the fact that gasoline pumps account for less than 20% of all the metals in the average service station."

Discarded equipment, including 1,000,000 completely out-of-date dispensers, should yield "an additional 160,000 tons" of scrap; and "many, many thousands" of storage tanks of 1000 to 5000-gal. capacity which have been "left in the ground at locations from which gasoline pumps have been removed" could also be reclaimed.

Mr. Moore concluded that the collection of scrap was the major job of the pump industry today, since the industry, although not dead, is "certainly in a sad state of coma."

Consolidated Hikes Wages

NPN News Bureau

NEW YORK—Wages and salaries of employes of Consolidated Oil Corp. have been increased as of Sept. 1, Harry F. Sinclair, president, has announced. Hourly-paid employes in refining, production and pipeline operations have been increased 5.5¢ an hour; monthly-paid employes have been increased 5% on salaries up to and including $3600 yearly; on salaries from $3600 to $7500 a flat increase of $15 monthly has been made. At the same time, Mr. Sinclair said that life insurance for all employes retired under the company's pension plan will be continued for one year.

Ickes Needs Added Powers, Frey Tells Marketers

NPN News Bureau

NEW YORK — Cooperation between the independent oil dealers and the government and methods whereby each can help the other were discussed at a meeting of the Atlantic Coast Oil Associations Conference with Dr. John W. Frey, assistant to Deputy Petroleum Coordinator Davies, held here Sept. 9.

The 75 representatives of oil dealer associations in the Northwest and Central Atlantic states were told by Dr. Frey that Petroleum Coordinator Ickes had made representations to President Roosevelt that he could not carry on with his duties unless he were given authority to enforce his own orders instead of having to submit them to some other agency for approval. Meeting unanimously adopted a resolution recommending that the President support the Coordinator's progress and give him further authority.

Gas-to-Coal in Canada

Special to NPN

OTTAWA—An order calling for the immediate switch from gas to coal in the Windsor-London area of southwestern Ontario was announced Sept. 10 by the Department of Munitions and Supply.

According to Power Controller Symmington, 6000 homes and buildings now heated by gas must change over their convertible furnaces and other heating equipment. Auxiliary appliances such as fireplace grates need not convert at present.

The new restrictions are an extension of the June 15 order, which prohibited the use of gas in equipment rented by the gas companies to the consumer or sold on a hire-purchase plan.

5350 Tank Cars for East

NPN News Bureau

CHICAGO — Standard Oil Co. of Indiana has released approximately 5350 tank cars for eastern hauls, and is thus using less than 35% of the number it did a year ago in the Mid-West, the company announced Sept. 15. Half a million dollars was spent for new loading and unloading facilities in the conversion to truck transportation, the company said.

NPN Reports

War Oil News and War Orders from

WASHINGTON

For ALL branches of the Oil Industry

WASHINGTON BUREAU, 1034-36-38 National Press Bldg. ● Telephone National 3477 ● STAFF: A. M. Petty, Warren W. Burns, O. H. Knight, James M. Collins

Civilians Must Get Tires, Baruch Report Emphasizes

WASHINGTON—The significance of the Baruch Committee's report, which was sent to Congress by President Roosevelt with the promise that the recommendations will "be put into effect as rapidly as arrangements can be made," is that tires *must* be provided for civilians, although only enough to sustain an average driving of 5000 miles a year—a mileage that would be controlled by nationwide gasoline rationing.

(Full text of the report begins on p. 21).

The committee found "the existing situation to be so dangerous that unless corrective measures are taken immediately this country will face both a military and civilian collapse."

Even though it pointed to this stark fact about our rubber supply, the committee insisted that tires be made available for the public, therein differing from some government officials who persist in emphasizing that the rubber position is so precarious that none can be spared for civilians.

Dependent on Synthetic

In the final analysis, the committee said, America is dependent upon synthetic rubber, pointing out that —even with *no* allowance for civilian driving—there will be a 211,000-ton deficit between supply and demand that will have to be made up by synthetic rubber before Jan. 1, 1944.

With this in mind, the committee urged that the present synthetic rubber program be "bulled through", because it is "technically sound". At the same time, the committee wants the synthetic program increased to 1,100,000 tons a year.

While the committee said nationwide gasoline rationing is the best and only way of saving tires, it nevertheless viewed rationing as perhaps only a stop-gap which might be dispensed with before the end of next year.

The committee said this would be possible if synthetic rubber plants come into production on schedule and if the product can be fabricated as easily as believed now, or if military demands should lessen, and if it is found at least 100,000 extra tons of Buna S are available for civilian tires.

Seeking to make sure that the 100,000 tons will be on hand, the committee endorsed a 140,000-ton expansion program for Buna S—110,000 tons to come from 100,000 tons of butadiene to be produced by refinery conversion and 30,000 to be produced from 27,000 tons of butadiene made from grain alcohol.

Declaring an "unfortunate" Government policy resulted in allocation of an insufficient amount of rubber for civilian passenger cars, the committee recommended use of 138,000 tons of reclaimed rubber in addition to Thiokol, other synthetic and a small amount of crude rubber to avoid "an almost complete collapse" of automobile transportation.

The committee said both new tires and recaps should be provided for civilians, estimating that as many as 25,000,000 recaps might be necessary. The old tire would have to be turned in before a new one could be purchased. Extra tires might be purchased by the government.

The committee was made up of Bernard M. Baruch, head of the War Industries Board in the first World War; Dr. J. B. Conant, Harvard University president; and Dr. Karl T. Compton, president of Massachusetts Institute of Technology.

Recommendations Summarized

Here, in brief, is what the committee recommended on Sept. 10:

Civilian tires — Nationwide gasoline rationing. A tire replacement and recapping program. A universal 35 m.p.h. speed limit. Compulsory tire inspection, possibly by licensing "recognized tire dealers and repair men". Reduction in annual driving to an average of 5000 miles. A 36,000 ton expansion of Thiokol output for civilian tire use.

Synthetic rubber — Increase in the program to 1,100,000 tons. Production of 100,000 tons of butadiene from refinery conversions in addition to 20,000 tons now planned. No new processes should be substituted. (A separate story on synthetic rubber will be found in the refining section, beginning on page 12).

Administration — Because of "chaotic" administration thus far, control of the rubber program should be centralized in a Rubber Administrator.

Priorities — Priorities must be guaranteed, because "assured arrangements for construction materials are urgent" if synthetic rubber is to be produced on time.

Guayule — Legal restrictions on acreage must be removed and farm equipment made available at once if a year's delay is to be avoided in planting guayule.

Manufacturing capacity — Reclaiming capacity should be increased by 20%. A nationwide survey should be made about Mar. 1, 1943, of rubber mixing, milling, compounding, tire building and vulcanizing in light of new knowledge necessary for handling synthetic rubber.

Scrap rubber — Scrap stockpile is sufficient to feed reclaiming plants at full capacity for the next 18 months, but a second intensive scrap collection campaign may be necessary in about a year. Normal scrap collection should continue in the meantime.

And through the report ran this thought:

"Discomfort or defeat. There is no middle course."

One Man Should Control Oil, Ickes Tells House Committee

WASHINGTON—Surrounded by practically all of his high-ranking, highly trained oil officials, Petroleum Co-ordinator Ickes on Sept. 10 told Congress, and Congress told him, that there would be much less confusion all around if oil industry control were vested in a single man.

As far as the petroleum industry was concerned, Mr. Ickes' views on 1-man control were not news (*NPN Aug.* 12, 19 *and* 26, *all on p.* 31), but it was news to hear a House committee say, in effect; "We agree, what can we do to help you?"

Members of this committee, the special House committee investigating petroleum and synthetic rubber, have been probing government agencies for the past few months in an effort to discover the bug, or bugs, in this country's wartime oil and synthetic rubber programs.

While members of the more sensational press probably decried Mr. Ickes' studied lack of "color" when he appeared before this Congressional committee, other newsmen, as well as members of the committee, impressed with the coordinator's detailed knowledge of petroleum industry problems. For, while, Mr. Ickes brought his powerful battery of experts with him, he seldom found it necessary to call upon them for information.

Hits Inconsistency

Rep. Fitzgerald, Conn., committee chairman, supplied the only real "color" when he said, in a continually rising tone of voice, it was a shame that while one government agency (OPC) was preaching conversion of oil to coal, other agencies (presumably WPB) allowed oil burner installation in new federal building.

"I know, it is embarrassing to me," Mr. Ickes said, "but I have no power to prevent it."

Before the hearing was over, the coordinator made his "I have not power" point stick with the com-

mittee. So much so in fact that the members were in a "let's do something about it" mood.

Rep. Fitzgerald produced a newspaper clipping, showing that the National Youth Administration advertised an oil burner for sale. This brought hearty laughs and a request from Mr. Ickes that he be given more details, presumably to show some of his government colleagues possibly those colleagues in WPB who have failed to halt oil-burner installations in federal buildings.

Oil Haul to East Listed

Asked how much oil was moving into East Coast daily, Mr. Ickes turned the question over to his transportation director, Maj. J. R. Parten, who gave following figures, as of Aug. 29: (figs. in bbls.)

Tank cars—822,000; pipeline—119,000; inland barge and lake tanker—92,000; and tank trucks (from Ohio and Kentucky)—25,000. Tanker movements being of military information, amount of crude and products carried by this method was not mentioned.

The East Coast is still short about 200,000 b/d, OPC's Petroleum Supply Director Robert L. Mincker said, explaining that this would be less with completion of pipeline and barge programs.

Plantation pipeline is now moving 60,000 bbls. of products daily, Major Parten said, but OPC hopes to have this at its 90,000-bbl.-per-day capacity before long. Plans are progressing, he added, to extend south end of line from Baton Rouge to Beaumont, Tex. and north end from Greensboro, N. C. to Richmond, Va.

Hits Tapco Line

The proposed Trans American Pipe Line Corp.'s crude line from Tinsley field to Savannah, Ga. or Charleston, S. C., was labeled by Mr. Ickes as "a speculator's dream". Compared with the 24-in. crude line now being built from Longview, Tex., to Norris City, Ill., which will move an estimated barrel of oil to the East for every ton of steel used, TAPCO's line would bring less than one-half a barrel, Major Parten said.

Total of 130 dry cargo barges are now being converted to carry oil to East Coast, and it's hoped that 259 such barges eventually will be converted, Major Parten said.

Rep. Fitzgerald said he knew the difficulties of conversion from oil to coal and questioned whether there were sufficient grates and other coal-burning equipment available for the large-scale conversion program OPC has been pushing.

OPA Makes Rules On Fixing Prices For New Products

WASHINGTON—To clarify what constitutes the "market price" for certain petroleum products not being produced when OPA's Price Schedule 88 became effective last October, new methods for determining maximum prices for these products have been established by OPA and announced Sept. 11. OPA explains:

"The methods set up in Amendment No. 31 (issued Sept. 11) to Revised Price Schedule No. 88 (Petroleum and Petroleum Products) apply to new products not being produced when the schedule became effective last October and to old products when other provisions of the schedule neither except sales or such products nor determine a maximum price that would be applicable."

Amendment No. 31, OPA says, makes the maximum price "the maximum price of the most closely competitive seller of the same class". OPA then adds:

"In case even this method cannot be applied, the seller shall set a tentative maximum price. Within 15 days he must request formal approval of the tentative price by OPA.

"In the future, a maximum price established by a seller for a petroleum product covered by Schedule 88 will be valid only if the seller can show either that the price was determined under an express pricing provision in Schedule 88, or by the new tentative pricing procedure established in this amendment."

O'Mahoney Group Studies Crude Oil Reserves

WASHINGTON — O'Mahoney subcommittee of Senate Public Lands Committee has queried about 28 oil companies—mostly majors—to ascertain their underground reserves of crude, but Sen. O'Mahoney declined to comment on the survey until he has had an opportunity to study the reports.

His committee sent the following telegram on Sept. 2:

"Please advise promptly for use of Public Lands Committee information as to number of barrels of petroleum reserve estimated by your company as held in proven oil lands controlled by your company and subsidiary on Dec. 31, 1941, broken down by states."

About half of the companies have replied, it was said.

More 'Gas' for Salesmen Considered by OPA

WASHINGTON — Within the next 10 days, OPA is scheduled to decide whether traveling salesmen on the East Coast will be allowed more gasoline ration coupons than at present. However, Rep. Woodrum, Va., who headed a special committee which talked this over with OPA's Henderson, said: "The outlook is not too optimistic."

Members of this committee other than Chairman Woodrum are: Reps. Pace, Ga.; Peterson, Fla.; Hare, S. C.; Sutphin, N. J.; and Rogers, Mass. Senate members are: Tydings, Md.; Davis, Pa.; and Aiken, Vt.

To Ration Canal Zone

WASHINGTON — Gasoline will be rationed in the Canal Zone, WPB indicated in giving OPA authority in Supplementary Directive No. 1-L to ration all commodities there.

The order itself covered all commodities, but the announcement referred specifically to gasoline.

Use of Steel Drum Further Curtailed By New WPB Order

WASHINGTON — WPB has banned the use of steel drums for shipping nearly 200 products, including crude oil and some petroleum products, after Nov. 13.

WPB issued Limitation Order L-197 on Sept. 14 which said that on and after 60 days from the date of issuance neither new nor used drums may be used to pack asphalt having maximum penetration of 95 at 75 deg. F. (A. S. T. M.), asphalt roof coatings or roof cements, petroleum greases with A. S. T. M. penetration of 300 and less, crude oil, paraffin wax, petrolatum, and a number of chemicals.

WPB said new or used drums manufactured, purchased or delivered after Sept. 14 could not be used for packing 35 other products, including liquid asphalt, pyrethrum concentrate, rust preventative with a flash point of less than 100 deg. F., and shock absorber fluid.

New drums are to be distinguished from others by an "X" marked on the bottom plate.

Products which were not packed in drums before Sept. 14 may not be shipped that way henceforth, WPB said.

Gasoline Not Covered

Gasoline was not covered by the order, an official said, and was excluded from the prohibited list because there is no satisfactory substitute for steel for shipping gasoline.

WPB said commodities on the banned list would shift to wooden and fibre containers principally.

An official also said that gasoline drums are not covered by any other limitation order.

WPB Sets 'Specs' On Building Steel In U. S. Contracts

WASHINGTON — WPB has established national emergency specifications for structural steel, increasing unit stresses, which are to be incorporated in buildings constructed under government contracts issued after Nov. 9, 1942.

The specifications, WPB said in issuing Directive No. 8, are binding upon WPB, Army, Navy, Maritime Commission, Reconstruction Finance Corp., National Housing Administration and all other government departments.

Sets 24,000 Psi. Stress

"The allowable stress for beams in flexure has been increased from previous allowances ranging from 16,000 to 20,000 pounds per square inch to a mandatory 24,000 pounds per square inch," WPB said. "Other savings of steel are effected through the use of continuity in design and welded fabrication."

Meantime, WPB reported that 75% of the nation's monthly production of 5,300,000 tons of steel is going into direct war use and the rest to the oil industry, railroads, utilities, machinery manufacturers and others who "are not getting much steel these days, but they do have to have some".

Taxis Eligible for Tires

WASHINGTON — Because of a special ODT order eliminating non-essential use of taxicabs, OPA made cabs eligible for truck-type recaps and even new tires if they obey the ODT order which forbids cruising, operation beyond certain distances outside city limits, and sightseeing service. OPA action was contained in Amendment 27 to Tire Rationing Regulations, effective Sept. 16.

Rails May Propose Rate Hike to East As ICC Clears Way

WASHINGTON—ICC has cleared the way for railroads to propose increases in emergency freight rates on crude and fuel oil to East Coast effective about Nov. 1. However, the ICC has not approved the changes and, when filed, the rates will be subject to protest and suspension.

Authority was granted for continuance of the emergency rates until Oct. 1, 1943. They were first established Sept. 15, 1941.

Railroads proposal to ICC indicates that they propose to continue emergency gasoline rates unchanged; to restore normal rates on benzine, casinghead gasoline, naphtha and naphtha distillate; and to increase rates on crude and fuel oils.

Rails said that experience had shown there was no "acute emergency" in transportation of the four products, emergency rates for which the rails propose to drop.

Emergency rates on fuel oil and crude have not proved to be compensatory, so it is proposed to increase them by varying amounts.

Among samples of rates the rails propose to file were the following rates to Marcus Hook, Pa., from destinations listed: From Longview, Tex., fuel oil, increase from 52c to 56c per hundredweight, and crude oil, 46c to 54c; from New Orleans, fuel oil, 50c to 53c, and crude oil, 37c to 46c; from Lima, Ohio, fuel oil, 28c to 30c, and crude oil, 19c to 24c.

Plan Mandatory Conversion Of Industrial Burners

WASHINGTON — Mandatory conversion of industrial oil burners to coal throughout the U. S., wherever physically possible, is in the cards, according to a well-informed OPC source.

Within next 3 months, OPC plans to send a representative into every industrial establishment—including refineries—burning oil to see if they can convert to coal.

Objective is to bring about enough industrial conversions to coal to displace 100,000,000 bbls. of heavy fuel oil by end of 1943.

HOLC to Convert Homes From Oil to Coal

WASHINGTON — Two thousand homes owned by Home Owners Loan Corp. in the Northeastern states will be converted from oil to coal, it was announced today.

HOLC said these are the only conversions possible out of 30,000 dwellings owned by it, but pointed out that it has no jurisdiction over its 800,000 borrowers over the country who would have to decide for themselves whether to convert.

ODT-OPA Wrangle Over 'Gas' Ration

(*Continued from Page 3*)

of a scarce commodity. For some weeks OPA has tried to tie its gasoline rationing program on the kite-tail of a more urgent issue. First it was rubber. Then it was "more-tank-cars-for-the-East" by Mid-Western rationing.

Henderson Steps In

And OPA's attitude hasn't changed since the Baruch committee reported.

Mr. Henderson, and Joel Dean, his chief rationer, were on the radio last Sunday. They spoke as if they believed Baruch committee had delivered the whole matter of gasoline rationing into OPA's hands. They said it would require several weeks to print ration coupons for the entire U. S. They spoke of a "billion tire miles" wasted daily on what they called "non-essential" driving.

Voluntary Rationing Urged

Until the coupons are ready, they urged motorists to voluntarily curtail their driving to East Coast standards, that is 4 gal. weekly for the average driver—7 out of 10 car owners.

Neither Mr. Henderson nor Mr. Dean discussed that portion of the Baruch report which spoke of the vital necessity of providing tires for passenger car transportation.

In other words, the OPA officials were still thinking in terms of commodity rationing—not mileage rationing—with no thought to the transportation angle.

That is the background of the fight that is now going on between ODT and OPA. It is not new, simply a renewal of where they left off before.

Army Switches to Coal

WASHINGTON — Army conversion of oil to coal burners will save more than 15,000,000 gal. of fuel oil annually—enough to heat 11,200 6-room houses during a normal winter, War Department reported on Sept. 10.

Crude Stocks Drop

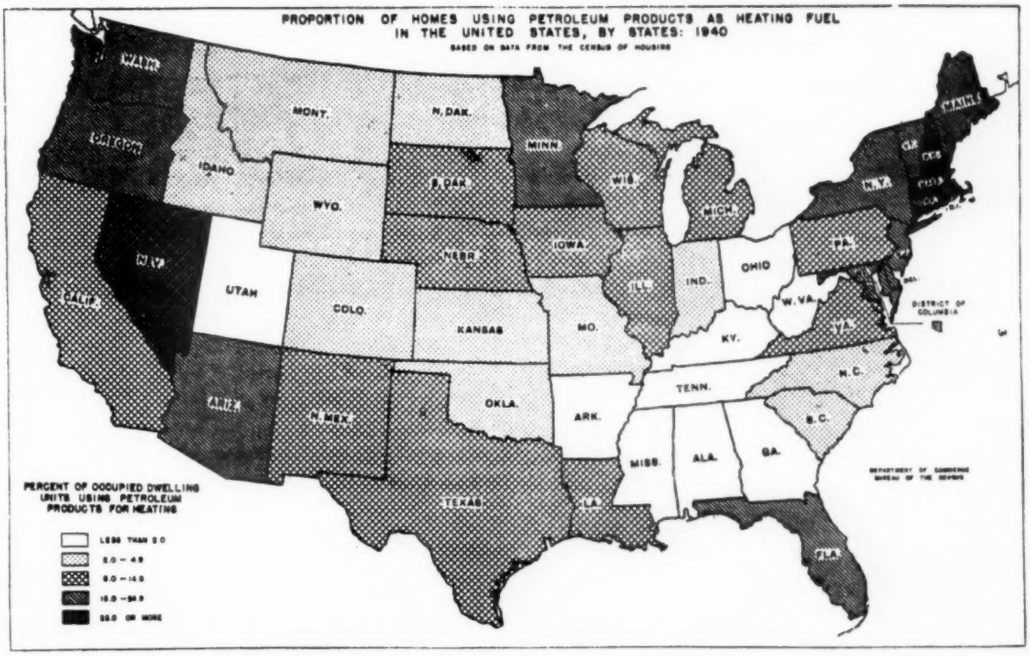
WASHINGTON—Stocks of domestic and foreign crude totaled 246,942,000 bbls. Sept. 5 compared with 248,364,000 bbls. on Aug. 29, Bureau of Mines has reported.

Nearly every producing area dropped except Texas, which increased 187,000 bbls. Largest drops were reported in Illinois-Indiana area, down 576,000 bbls.; Oklahoma, down 411,000 bbls.; Rocky Mountain area, down 185,000 bbls.; and California, down 185,000 bbls. Other area changes were relatively slight.

Census Shows Concentration of Oil-Heated Homes in East

WASHINGTON — Two out of every three of the homes in the U. S. that use petroleum products as principal heating fuel are in the East Coast area, according to the Department of Commerce.

The 1940 Census of Housing reports that, out of 33,867,260 occupied dwelling units questioned, nearly 3,400,000 use fuel oil, kerosine or gasoline. This 10%, however, is not scattered evenly throughout the country, but is concentrated in the 17 eastern states and the District of Columbia. The other 31 states contain three-fifths of all the occupied units in the country, but only one out of 16 of them is principally heated with petroleum products. In the eastern area, one out of every 6 dwelling units uses petroleum products for heating.



Kentucky Marketers Golf at Lexington

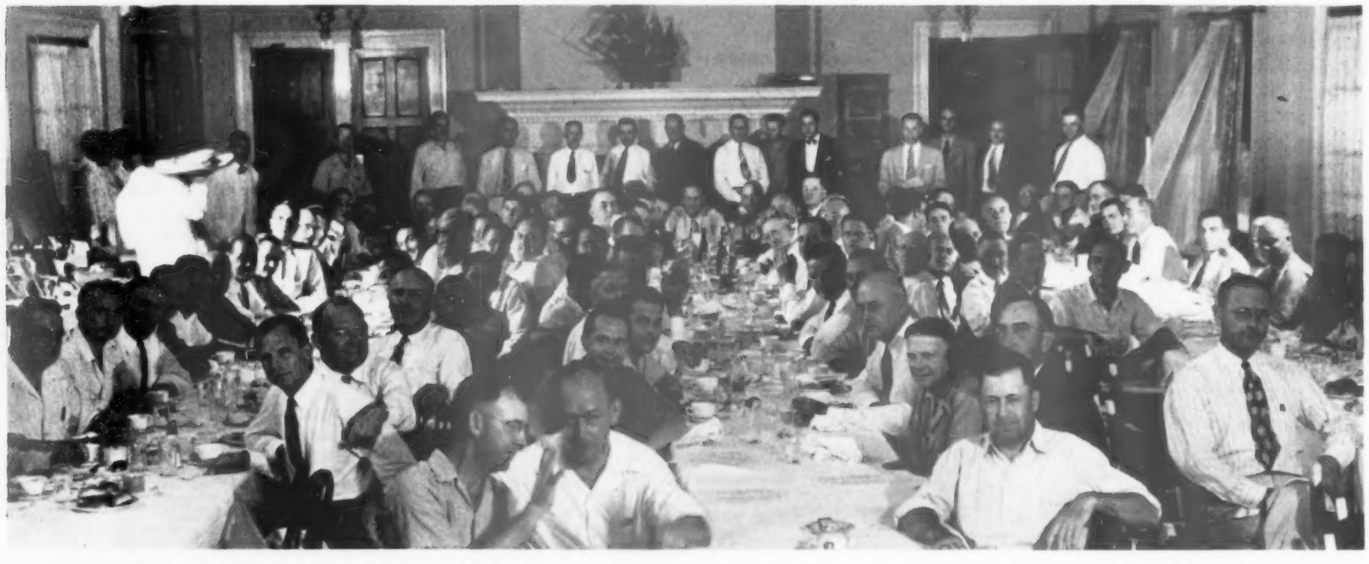
Non-golfers played checkers. At left, Winner George Horine, Lexington, Kentucky Independent Oil Co.; center, Referee C. E. Corrill, Lexington, Aetna Oil Co.; right, runner-up Joe Hutchinson, Lexington, Power Oil Co. Standing, from left to right: N. B. Ingram, Terre Haute, Mid-Continent Petroleum; Dudley Burke, Lexington, Kentucky Independent Oil Co.; Buddy Smith, Lexington, Kentucky Standard; Richard Gordon, Lexington, Shell; G. E. Whitlock, Louisville, Mid-Continent Petroleum

Special to NPN

LEXINGTON, Ky.—F. D. Bannerot, Charleston, W. Va., of Elk Refining Co., won the low gross championship with a 78 (without a single birdie) and Clifton Hurst, Richmond, Ky., of Central Petroleum Co., won the low net championship and President's Trophy with an 82, 12 handicap, net 70, when 71 oil men golfers turned out for the 12th annual tournament of the Kentucky Petroleum Marketers Assn. on Sept. 3. Thirty-five oil men were present who did not play golf, but some of them participated in the checker tournament—and all drank lemonade, it is reported.

Moving pictures were taken throughout the day, to be added to the reel taken at the 1941 tournament. Showing of the movies is one of the big attractions at the K.P.M.A.'s annual meeting.

Carl VosKoetter, Louisville Refining Co., chooses for his prize an S. U. (Slightly Used) tire donated by Rocket Transport Co. Mr. VosKoetter tied for the low net championship, shooting 86-16-70, but first place went to the man with the lower handicap, Clifton Hurst



All 71 marketers wait for prizes to be awarded at the final luncheon after the tournament at the Ashland Country Club in Lexington

Left—
Middleton DeCamp (left), past general chairman, presents low gross championship cup to F. D. Bannerot, Charleston, W. Va., Elk Refining Co.

★

Right—
M. A. Bauer (left), general chairman, presents the handicap championship trophy to Clifton Hurst, Richmond, Ky., Central Petroleum Co.

The EDITOR'S Page

Readers comments and opinions will be much appreciated by—WARREN C. PLATT, NPN's Editor and publisher, Penton Building, Cleveland, O.

Join the U.S. TRUCK CONSERVATION CORPS

Red Tape Blocks Oil Jobber In Wartime Use of His Trucks

HERE is a good illustration of how government red tape and the regulatory agencies are blocking the oil industry's war effort.

It is the story of a Wisconsin oil jobber who wants to use some of his idle truck time to haul for neighboring small jobbers; but he cannot, it seems, without either becoming a common carrier or giving up operating control and some earnings of his equipment to a common carrier; and to do either he must take much time and know how to unwind government red tape.

There must be thousands of such illustrations of red tape hampering full use of the oil industry's transportation facilities, as well as similar facilities of other industries. Government agencies cannot "plan" to discover all these little extra uses that ingenious American businessmen can, and do, figure out. Yet government agencies presume to do just that with the result that individual American ingenuity is not used or is not used to its full advantage in fighting this war.

The fallacy of OPA Henderson's handling of the East Coast oil situation lies in the fact that he insists it has to be handled by government planners, and that no individual can work out any ingenious individual ideas for supplying the East Coast, except that such individual wants to advance for some indefinite time or to donate the extra cost he might be put to by using his ingenuity.

The Baruch committee's rubber report is severely critical of how government planners who knew little or nothing at all about rubber or the manufacture of butadiene or the construction of such plants refused to let the industry men, who were the only ones in the world who did understand the job, go ahead with their own ideas. No, the rubber situation had to be worked out by the non-experts, with the resulting confusion and dangerous setting-back of our war effort.

Maybe this Wisconsin jobber should know a short cut through the red tape—but who does know such short cuts? Maybe it would take him only a day or two to unwind the tape, but that is not the average experience of those who have to do with Washington.

SINCE it is the maximum use of transportation facilities that this country is up against in order to win the war, why would it not be common sense to suspend all laws and regulations except those of safety, that in any way interfere with a truck owner's freedom of action with his own property?

Let the truck owner pay his own state taxes and then do as he pleases with his property, except for observance of safety regulations. Let the truck owner run his truck anywhere he sees he can put it in essential service, and let him charge whatever he would, and let the buyer of that service pass that charge, if an extra one, on to the consumer without going to OPA for investigation, study and a probable "No".

The extent to which this Wisconsin jobber has free use of his motor equipment, to that extent the jobbers and other truck owners of the country will also have free use, and to that extent EVERY TRUCK OWNER can do his utmost to help win this war.

Government regulations are to help all the people, and when they do not so help all the people, they should be abolished. Certainly they should be abolished when they only cause a people to suffer defeat at war.

Here is how that Wisconsin jobber is telling the story of his attempt to help America win the war to Director of Defense Transportation Eastman, at Washington, D. C.:

"The Fiore Coal and Oil Company is engaged in business here in Madison, located in Dane County. We supply a radius of about 35 miles from Madison. We have a large bulk plant with a storage capacity of over 2,000,000 gal., with annual sales of about 5,000,000 gal. of gasoline and 3,000,000 gal. of fuel oil. I happened to be one of the few with the foresight to see what the transportation problem was going to be about a year ago. In July we got three semi-trailers and tractors with a capacity of 4,000 gal. each from the War Production Board, releasing about 30 tank cars to the government. This equipment would take care of my requirements for hauling all my fuel oil and gasoline from the Great Lakes Pipe Line and Phillips Petroleum Company Terminal in East Chicago, and fuel oil from the Worth Refining Company at Blue Island, Illinois. After I had been hauling about 30 days, I couldn't get any more fuel oil from the Worth Refining Company.

"I am now confronted with this problem. Due to the fact that I cannot get fuel oil, I can spare my equipment for about three or four trips a week which would amount to between 20,000 and 30,000 gal. of gasoline a week. I am listed as a private carrier. I have all this equipment painted orange with the Phillips 66 and Fiore Coal and Oil Company printed on them. The new order 57 restricted more tank cars, and Phillips has three small jobbers right in this territory handling the same products I do, which they would like to have me haul to, and which I would like to do. Now the problem enters in here. As I am a private carrier, they tell me I cannot haul to these jobbers unless I lease my equipment to a common carrier. I wouldn't mind leasing the trucks to a common carrier if I could spare the equipment all the time, but I can only spare them for about three or four trips. Not only that, but I like to keep my equipment in A-1 shape, that is greasing and making minor repairs which prolong the life of the vehicles.

"I went to the local office here and explained the situation, and although Mr. Elderidge was very nice about it, he said I should work together with a common carrier. Now, the common carriers can't take care of these people, the jobbers and Phillips Petroleum Company have already contacted them.

"The bottle-neck is that if I lease my equipment to a common carrier they want 10% of my earnings. Here are two reasons why I don't want to lease it. One reason is that I wouldn't have any close supervision over my trucks, and the second reason is that I don't see why I should have to give them 10% of my earnings. If this is an emergency, and we are to beat the Axis, I don't see why we should have all this red tape. You can't beat the Axis with one hand on your pocket-book.

"The State of Wisconsin has already lifted the capacity from 2,000 to 4,000 gal., because they saw that it was necessary in order to keep people supplied. Why couldn't I haul these jobbers these products when I can spare a trip or two to some of my friends who handle the same products I do?

"I was wondering if I couldn't get the authority for the duration of the war to keep these trucks busy, when I have a little spare time? I was going to write to the Honorable Senators LaFollette and Wiley, but I decided that perhaps it would be better if I wrote you first.

"I trust that you will excuse me for writing a letter the length of this, but that is only half of my story at that. I would appreciate hearing from you at the earliest possible date."

Signed, FIORE COAL AND OIL COMPANY, A. J. Fiore, President

Same Agency that Bungled Rubber Now Operates Oil Financing Plan

THE government still keeps a restraining hand on the oil industry in its effort to serve the East Coast, in the latest "settlement" of excess transportation costs.

For the oil companies shipping to the East will not only have to advance 25% of the excess transportation costs while their bills are "audited" by a not too quick-moving bureaucracy, but the refiners are not allowed any higher price for the extra cost of manufacturing proportionately more fuel oil than the better paying gasoline; and, of course, the marketing division gets no more money even though its costs are higher by reason of more wages, and also by reason of less volume per dollar of investment and necessary overhead.

OPA has refused to change its East Coast price ceiling for the above named extra expenses. This forces every oil company that wants to help out the East to go the long route of government red tape, government payment of 75% of the extra cost, and government delay while it audits the remainder of the bill.

The agency that has devised and is operating this method of supplying petroleum to the East Coast is the same agency whose bungling of rubber is so severely criticized in the current report of the Baruch-Conant-Compton special rubber committee. (See complete report elsewhere in this issue). RFC is the parent of the sub-agency that set a lot of non-experts to holding back and turning down oil and rubber company proposals on rubber, and here it is also the same agency that would compensate oil companies for their extra transportation costs.

IN view of the mismanagement today of rubber and oil, one wonders whether there may not have been much bungling by this same agency back in 1933 when it undertook to "save" a lot of banks?

Some of us might think of a bank or two that closed for good under the "saving" treatment of RFC—treatment that savored of political scuttling, and banks whose liquidation records have plainly shown that if they had been loaned only a few million of the billions the Washington planners started flooding the country with, they would be serving the country today.

OPA's price ceiling may be saved by RFC's undertaking to pay the extra transportation costs on oil, but the saving certainly puts the oil companies directly under the thumb and at the mercy of this none too competent, to say the least, Washington agency. Also, the scheme does not invite the ingenuity of every oil man and of every citizen to get petroleum to the East, for any individual so contriving will have to whistle for his extra expense until red tape is unwound.

It is to be hoped that P.I.W.C. will decide before it is too late to meet the OPA government price control theory head-on, with argument and battle as to what a free industry can do if it is allowed to use its own inventiveness, and is permitted to get, in the price charged the customer, immediate compensation for all legitimate expense.

Perhaps official Washington can be made to realize that any legitimate advance in a commodity price is not inflation, and also that it can be made to realize that what will win this war is simply tremendous quantities of petroleum, among other products, delivered where they are most needed and when they are most needed, and that this can only be done by an industry whose cash balances are kept in sound shape by prompt collection of all expenses.

Something of what is before this oil industry as to war demands is indicated by the statement of Wendell Willkie made abroad the other day, that by the end of the year we will be producing 10,000 planes a month. When that kind of output takes to the air in all-out attack, those air fleets will eat up in a few hours the production of many a refinery for months.

If oil or any other industry has to wait on more bungling government agencies to run their businesses, as they have the rubber business, some of these planes may not get off the ground.

Rubber Committee Reports Anxiously About Steel for Oil Refining

THAT all is not well with the oil refining industry's getting steel and other construction materials it needs for its tremendous war program is finally leaking out at Washington. The War and Navy Dpartments seem to have jumped up their priority numbers and put what they require ahead of everyone else.

The Baruch-Conant-Compton rubber report speaks most anxiously of raw material difficulties for oil refining. In fact, the whole report has a note of distinct anxiety running all through it.

It will not help the prosecution of the war for American industry to make trucks and tanks and to have no rubber tires to put on them, nor to build planes and there be no tires or fighting fuel.

About the only way to get intelligent war action at Washington, as with most governments, seems to be to find the errors and drag them out in the open, even though that may please Hitler. However, that individual may be as well aware of the difficulties as those on the inside at Washington.

But whatever the aid it may give Hitler, the facts as to the supply of materials to the oil industry should be told the tax payers by frank report from the interested war agencies, or by further congressional probing, if necessary.

Democracy—all the people—has to dig into and supervise its government machinery to keep it working right.

Low OPA Junk Prices Threaten Steel Supply

THERE evidently is an important job of supervising for democracy to do today, according to that rubber report and such information as was printed in NPN last week.

Again OPC and P.I.W.C. can get the facts from the other government agencies and give those facts to the industry and to the public.

It is just like OPA's price ceiling on the East Coast, which threatens the residents there with cold homes and more walking.

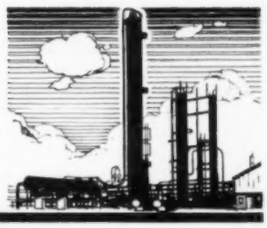
To keep OPA's price ceiling on steel from being punctured, OPA is holding a firm low price on scrap, with the result that the supply at the steel mills is declining alarmingly, even though WPB appears frantic over the alleged lack of steel for war munitions, and even though steel is not being given the oil industry for the manufacture of butadiene, 100-octane aviation gasoline and toluol.

Summarizing the effect of the administration's low price for scrap, the *Chicago Tribune* last week said:

"Less economical sources of old metal have to be exploited. Scrap would cost more even if labor costs had not risen. The maintenance of a fixed ceiling on scrap iron restricts the supply of old metal to that which can be gathered at a profit by the established collectors and dealers. As costs go up and the price remains fixed, collections must decline.

"We need the scrap which the peddlers are well prepared to bring in, but the government won't let the price go up enough to enable them to ply their trade. The magazine *Steel* reports that scrap collections are barely able to keep the mills going, and that daily receipts are looked upon to sustain production. During the first World war the collection of scrap was at double the prewar rate, but the price and profit incentive was used to bring that result about.

"Now we need more steel desperately and the biggest reason that we are not able to get it is a shortage of scrap. The profit system could do the job. A spokesman for the scrap institute once said that "It is axiomatic that there never is a shortage of scrap at a price." If the profit system is not to be allowed to work, scrap collection has to be organized by counties in the country and by wards or precincts in the city."



Synthetic Rubber May Edge Out Natural Later, WPB's Elder Tells A.C.S. at Buffalo Meeting

By NPN Staff Writer

BUFFALO, N. Y.—The billion dollar synthetic rubber industry in this country, of which the oil companies' new butadiene plants will be a principal part, is likely to become a permanent American enterprise, Albert L. Elder, Washington, of the War Production Board, told the general meeting of the American Chemical Society here Sept. 9. If improvements in the methods used and in the product continue as in the past, natural rubber at any price might not be able to compete with synthetic rubber, he said.

"We may have only scratched the surface with present developments", Mr. Elder stated. "It is conceivable that plant equipment will be greatly simplified, low molecular weight butadiene polymers may be formed and used, less pure butadiene may be required, separations simplified, handling costs reduced and the final synthetic rubber greatly improved. The technical men may develop short cuts and the use of low grade butadiene and thereby make rapid advances in the output of synthetic rubber."

Japs Underestimate Us

Only a strong and vigorous nation endowed with a wealth of raw materials would have had the courage to undertake an output of synthetic rubber from 2500 tons in 1939, 5000 tons in 1940, 12,000 tons in 1941, 30,000 tons in 1942, 325,000 tons in 1943 and nearly 1,000,000 tons in 1944, said Mr. Elder.

"The Japs have completely underestimated our technical ability if they thought that, by taking natural rubber away from us, we were licked. We will bounce right back with synthetic rubber."

From the present outlook, Mr. Elder called for an end of the debates on the economics of butadiene from petroleum vs butadiene from grain, which are based on the theory that synthetic rubber is a war baby and hence it will be easier to close down if the butadiene is produced from petroleum, than for thousands of farmers to be put out of work raising grain for alcohol to convert into butadiene.

Butadiene Schedule

In his talk, the WPB authority gave the status of the production of butadiene in the synthetic rubber program. The proposed yearly rate of 717,800 tons output is expected to be reached in October, 1943. (This production is to come from new plants and does not include the butadiene production from existing refining facilities by which the oil companies are undertaking to provide some synthetic rubber in the interim period until the permanent plants are completed—Ed.) The engineering and drafting on these plants is approximately 60% completed, Mr. Elder said, and commitments are made for about 40% of the materials. New plants are expected to come in at the following yearly rate:

	Tons Yearly
September, 1942	13,300
November, 1942	9,500
January, 1943	20,000
February, 1943	20,000
March, 1943	165,900
April, 1943	135,000
May, 1943	40,000
June, 1943	170,000
July, 1943	40,000
August, 1943	55,000
October, 1943	50,000

Contributing to this 717,000-ton annual production of butadiene will be oil company thermal cracking plants, with 107,000 tons annually; oil company catalytic cracking plants, 390,000 tons; alcohol plants, 220,000 tons. The present program, Mr. Elder said, calls for 11 alcohol plants, each with a capacity of 20,000 tons a year and requiring all told 80,000,000 bushels of corn.

Plant Projects Listed

He listed the present plant projects, their capacities and estimated dates of completion in 1943 as follows:

From petroleum raw materials (butane-butylenes)—

Shell Chemical, 85,000 tons, March.

Standard Oil Co. of Louisiana (two plants), 15,000 tons, March; 8300 tons, September.

Humble Oil & Refining, 30,000 tons, March.

Sun Oil Co., 15,000 tons, March.

Neches Butane Products (two plants), 50,000 tons, April; 50,000 tons, June.

Phillips Petroleum Co., 45,000 tons, April.

Imperial Oil, Ltd., 30,000 tons, June.

Cities Service Oil Co., 55,000 tons, August.

Carbide & Carbon Chemicals Corp., 5000 tons, September.

Sinclair Refining, 50,000 tons, October.

Atlas Oil, 9500 tons, November.

From conversion of alcohol—

Koppers United (4 plants), 20,000 tons each, to be completed in April, May, June and July.

Carbide & Carbon Chemicals (3 plants), 20,000 tons each, to be completed in May, June and July.

Carbide & Carbon Chemicals Corp., 5000 tons, September.

Carbide & Carbon Chemicals, (4 plants), 20,000 tons each, to be completed in January, February, March and April.

Reasons For Set-Up

In outlining how the synthetic rubber program was set up, Mr. Elder told the chemical society that the largest portion of synthetic rubber production was allocated to Buna S rubber because many methods for manufacturing butadiene, the principal constituent, were known and also since there were available supplies of butylenes, the raw material most closely associated with butadiene.

Technologists with the petroleum companies and the rubber companies had had some background of study in the manufacture of synthetic rubber and their experience was called upon, he said. Individual companies which had developed methods for making butadiene had pooled their data, he said, to aid in designing plants. At present, he said, there are 5 methods for making butadiene good enough to get to the pilot plant stage or into full scale commercial plants.

Principal production difficulties, said Mr. Elder, resulted from the close boiling points of the butylenes and other light hydrocarbon compounds making separation difficult; from the low yields of butadiene in many cases, which called for a heavy concentration in the material being processed; and from the necessity for purification of the butadiene produced. No method has yet come to light, he stated, by which any raw materials can be put into one end of a tube and pure butadiene in quantities taken from the other end.

Dow Discusses Styrene

At the same meeting of the chemical society, Dr. Willard Dow, of the Dow Chemical Co., read a

C. L. Brown Named to Head A.C.S. Oil Division

Special to NPN

BUFFALO, N. Y.—C. L. Brown, Baton Rouge, of Louisiana Standard, is the new chairman of the Division of Petroleum Chemistry of the American Chemical Society, elected at the A.C.S. meeting in Buffalo Sept. 9. He succeeds J. K. Roberts, Whiting, Ind., of Indiana Standard.

R. E. Burk, Cleveland, of Ohio Standard, is the new vice-chairman of the division.

Secretary-treasurer is L. M. Henderson, Chicago, Pure Oil Co., who succeeds C. R. Wagner, Chicago, Pure Oil Co.

The executive committee of the division includes the new officers and retiring Chairman Roberts and S. S. Kurtz, Philadelphia, Sun Oil Co.

More complete information on the new research developments announced at the meeting of the Petroleum Chemistry Division of the American Chemical Society will be published in the coming September monthly technical section of NATIONAL PETROLEUM NEWS, devoted to *Refinery Management and Petroleum Chemical Technology*.—Ed.

paper on "Progress of Styrene Production". He described the process developed by his company which uses a catalyst aluminum chloride, which can be made from scrap aluminum and bauxite. Eighty per cent of the catalyst is recovered, he said. Dr. Dow said the production of styrene, the other ingredient of Buna S rubber, is also not a war baby, stating that it would continue to be used in large quantities after the war in making plastics.

Because of the fact that the Baruch committee was soon to make public its report on the rubber situation in general, Dr. Edward R. Weidlein, director of Mellon Institute of Industrial Research, who was to have talked on "Progress of Synthetic Rubber Production", withheld his paper and did not appear on the program.

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Research in Oil's Wartime Products Announced at A.C.S. Buffalo Meeting

Research investigations of practical value to oil companies in producing new and improved products from petroleum for the nation's war effort were announced at sessions of the Division of Petroleum Chemistry and of other divisions, during the fall meeting of the A. C. S. at Buffalo. Included in the research projects presented by technologists with oil companies and other institutions were

Synthetic Rubber

Catalytic study of the alkylation of benzol and ethylene in the gaseous state, instead of in the liquid state, to produce ethylbenzene, an intermediate material for styrene, one of the ingredients of Buna S rubber: From the Gulf Research and Development Co.

Study of the size and molecular structure of synthetic rubbers as related to their processibility in conventional factory equipment: From the Standard Oil Development Co.

Research in properties and compounding of Butyl rubber and Buna N rubber, as a guide to their application in industrial uses: From the Standard Oil Development Co.

Method for measurement of surface tensions of methane and propane mixtures, for application in determining correct diameters of fractionating columns separating ethylene: From the teaching staff of chemical engineering department, University of Michigan.

Aviation 'Gas', Other Products

Data on the liquid carrying capacity of bubble plate fractionating towers, of importance in designing aviation gasoline, butadiene, toluene and other wartime refining plants: From engineering staff of E. B. Badger & Sons Co., Boston.

Phase equilibrium data of value in studying the recovery of hydrogen chloride in plants producing isobutane from normal butane: From Gulf Research and Development Co.

Data on the solubility of hydrogen in normal butane under different conditions of temperature and pressure; important where the introduction of hydrogen is being considered in the reaction of normal butane to isobutane, to offset "cracking": From Gulf Research and Development Co.

Computation of vapor-liquid phase equilibria data for complex hydrocarbon mixtures of greater molecular weight than heptane, which has practical application in the design of stabilizers, absorbers, reaction chambers and other equipment where a knowledge of temperature, pressure and composition relationships of coexisting liquid and vapor phases is essential: From the teaching staff of the chemical engineering department, University of Michigan.

Method of building ketones, oxygen-containing hydrocarbon compounds used as solvents and other industrial purposes, by reacting olefins with an acid anhydride: From research and development department, Union Oil Co. of California.

New process for removing the ash-forming constituents from residual fuel oils by employing boric acid at elevated temperatures: From Socony-Vacuum Oil Co., Inc.

Lubrication Oils

New technique in accurate color testing of lubricating and other oils by the use of a photoelectric colorimeter: From Socony-Vacuum Oil Co., Inc.

Four methods for examining in the laboratory the detergency of motor oils: From Shell Development Co.

Study of the catalytic effect of iron, copper and lead metals and their soluble salts, formed in crankcase oils in use, on the stability of the lubricant. The advantage is shown of continuously maintaining engine oil in clean condition by the use of filters: From Shell Development Co.

Rubber Processes 'Frozen'; Baruch Advises No Change

NPN News Bureau

WASHINGTON — President Roosevelt's approval of the Baruch committee report indicates that present processes will be "frozen" in the synthetic rubber program because it would be a "major blunder" to substitute any new processes as they could not accelerate Buna S production in the critical year of 1943 when 100,000 tons could determine military success.

Recommending that the present program be shoved through to completion along with an increase to 1,100,000 tons annually, the committee found that 100-octane and synthetic rubber made from butylene would not conflict if the two programs are properly integrated.

Output from Conversion

Manufacture of an additional 100,000 tons of butadiene from refinery conversion was urged by the committee which pointed to the urgent need for swift and adequate allocation of materials, lack of which could turn "quick butadiene" into slow butadiene and block the entire synthetic rubber program as well.

Because butylene is the basic process involved in the program now, the committee said it would be necessary to rush completion of at least one small commercial pilot plant, complete with fractionating towers, to test the process before the big units come in, and to give high priorities to one large scale plant for completion by March, 1943, so that experience may be gained on full scale operation.

The committee's recommendations with respect to synthetic rubber follow:

No further substitutions in the plans now laid down.

Immediate authorization of an additional 140,000 tons of Buna S capacity per year.

Immediate institution of a refinery conversion program to yield a total of 100,000 tons of butadiene in addition to that now planned from conversion.

Immediate adjustment in the rates of construction of present styrene and polymerization plants in order to obtain the maximum production of Buna S in 1943.

Construction of additional plants for the production of 20,000 tons of Neoprene per year.

Erection of a 27,000-ton butadiene plant from grain and an associated polymerization plant to produce 30,000 tons of Buna S, both to be located near the center of grain production, construction to be started 6 months hence unless the Rubber Administrator (*see story on page* 13) determines otherwise and the process to be determined on basis of information available then.

Immediate erection of alcohol plants to produce 100,000,000 gal. per year, using recently developed apparatus, plants to be located on sites near grain producing states and near water transportation so that molasses can reach them after the war.

On that basis, here is a comparison between the present program and the one recommended by the committee:

	Present Program (capacity per year)
Neoprene	40,000 tons
Butyl	132,000 tons
Buna S	705,000 tons
Thiokol (private)	24,000 tons
	Recommended by Committee (capacity per year)
Neoprene	60,000 tons
Butyl	132,000 tons
Buna S	845,000 tons
Thiokol (government and private)	60,000 tons

A total of 400,000 tons of Buna S and 30,000 tons of Neoprene will be produced during 1943 if the construction program is completed on schedule, the committee said, but pointed out that a "considerable element of risk" is present until experience has been gained through operation of a large-scale plant at each step of the process which includes 3 unprecedented manufacturing operations.

Charges Conflict On Oil

"The committee wishes to emphasize again at this point," the report said, "that the whole question of obtaining synthetic rubbers in adequate amounts in 1943 hinges on the rate of construction of the manufacturing plants. Unless the present situation involving the assigning of priorities and allocating of materials is improved, there is grave danger that there will be serious delays in the completion of the plants and consequent reduction in the amount of synthetic materials produced. Furthermore, unless the administrative changes recommended in a later section of this report are put into effect, conflicting governmental plans with respect to the oil industry may seriously jeopardize the production of butadiene." (This paragraph was underlined in the report.)

Experts of the committee exam-

ined many other butadiene and synthetic rubber processes, report continued, and found "that quite apart from their merits or demerits, no one of them could now be substituted in the present program with hope of accelerating the production of Buna S in the critical year 1943."

Says Butylene Supply OK

On the question of aviation gasoline versus synthetic rubber, the report had this to say:

"The committee finds that there has been considerable discussion between two groups within the oil industry as to whether or not there was a serious conflict between the butadiene program based on butylene and the high octane aviation gasoline program.

"With the aid of our experts we have examined carefully into this problem and consulted many technologists in various oil companies as well as discussing the matter with the officials of the Office of Petroleum Coordinator.

"It is our conclusion that, while the possibility of a conflict between the two programs does exist, it need not become serious if the possibility is recognized and if the administration of these two closely related enterprises is properly integrated.

Refinery Conversion

The additional 100,000 tons of butadiene to be made through refinery conversion would fill the gap between butadiene and polymerization capacity which will not come together until the middle of next year, act as a stand-by in later years, and insure against contingencies affecting other plants, the report added.

Polymerization capacity will have to be increased if the extra 100,000 tons of butadiene are to be used when the program is complete, since there is no assurance that polymerization capacity will be 15% to 20% greater than now planned as is the case with butadiene, committee said.

Polymerization Standardized

Polymerization designs of 4 large rubber companies have been standardized now and "is a compromise of the ideas of four separate technical groups," report said, adding that "it may or may not incorporate the best ideas of each; on this point grave doubts have been expressed to the committee."

Therefore, it was recommended that one of the standard plants be completed quickly to secure operational experience.

Because of the importance of the polymerization program, the committee recommended that one or more corporations controlled by smaller rubber and chemical companies be formed to operate a "certain number" of the standard plants and that all companies—to keep alive the competitive urge—be allowed to expand their polymerization capacity according to their own design.

Emphasizing again and again that a free flow of materials is an absolute necessity, the committee said that anticipated 1943 production of 425,000 tons of Buna S and Neoprene could be cut in half by a delay of as little as 120 days.

While the committee found Flexon, the new Standard Oil Co. of New Jersey product, to have an advantage over Butyl in that it is more quickly made and uses less critical materials, the report was unable to recommend inclusion of any large amount in the program, asserting that this process is wasteful from the standpoint of isobutylene consumption.

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Under Baruch Plan, OPC Would Control Operations of Oil-Butadiene Projects

NPN News Bureau

WASHINGTON—OPC would be given control over butadiene for nearly three-fourths of the Buna S in the synthetic rubber program, subject to direction of a Rubber Administrator who would be named as part of a sweeping reorganization of rubber control, according to recommendation of the Baruch committee.

Committee's recommendations, which were endorsed by President Roosevelt, called for appointment by WPB Chairman Nelson of a Rubber Administrator with "full and complete" authority over all phases of rubber including research and development, except that he would give OPC the directives to carry on research and explorations relating to manufacture of butadiene from petroleum and natural gas.

Committee raised the possibility that control over funds for the whole program might later be placed at disposal of WPB instead of RFC.

The Rubber Reserve Co.'s construction division would be in charge of building *all* synthetic rubber plants, but operation of the petroleum plants would be under OPC after they are finished, and operation of all other plants would be under the Rubber Administrator.

A new technical division would be set up in OPC to carry on the research and development responsibilities resting in that agency, and a similar technical division would be set up under the Rubber Administrator to conduct other research work.

Under the heading "Centralize Oil Operations", a digest of the full report said the committee recommended:

"That the Petroleum Coordinator be directed by presidential order to act on specific directives from the Rubber Administrator to explore all methods for the production of butadiene from petroleum and natural gas production and to recommend proposals to the Rubber Administrator for consideration and action.

"However, to make certain there are no construction delays because of conflicting authority, the construction of all plants and equipment concerned with the production and purification of butadiene from oil shall be under the direction of the Rubber Administrator. The Petroleum Coordinator shall supervise the operation of these plants, after construction, but he shall not change the presently authorized program (or plans for operation) except as approved by the Rubber Administrator.

"In delegating this added responsibility to the Petroleum Coordinator, the Committee has sought to secure complete coordination of the butadiene-from-oil program with other petroleum and natural gas requirements, especially for aviation gasoline and for toluene for explosives."

Construction of new facilities to make butadiene from oil, the report said, has been "complicated" by a "conflict" between Rubber Reserve and OPC, and the committee "has been unable to determine, in spite of many inquiries, as to where the responsibility has lain for many of the decisions which have been made in the last eight months."

The report criticized the government's failure to set up a group of independent experts to make technical decisions, a failing that "has added greatly to the public confusion and uncertainty."

Reliance upon one part-time technical expert, aided by industry committees, has been inadequate for development of a brand new $600,000,000 industry, the committee said. The one technical expert was not named.

A technical staff should have been appointed to gather information on the various processes and pass along the data for all important decisions, the committee said.

"Instead of such orderly methods of procedure," said the report, "we have found many evidences of a chaotic situation in which nontechnical men have made decisions without consultation with subordinates nominally in positions of responsibility."

'Alky' Rubber Given Place In Baruch Program

NPN News Bureau

WASHINGTON — "Alky rubber"—aside from the Carbon and Carbide process—has found a place in the synthetic rubber program if Baruch committee recommendations are carried out as President Roosevelt said they would be.

Committee recommended that a 27,000-ton plant be built to make butadiene from grain, and that a 30,000-ton polymerization plant be constructed to turn the grain butadiene into Buna S rubber.

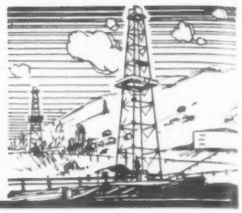
The plants are not to be built, however, for at least another 8 months at which time the committee believes it will be possible to better evaluate the Polish process backed by Publicker Commercial Alcohol Co., Philadelphia, and the butylene glycol method which is in the Peoria, Ill., laboratory of Agriculture Department.

Refinery Operations

(American Petroleum Institute figures in barrels of 42 gallons. Figures are U. S. totals and are on a Bureau of Mines basis. Breakdown by districts will be published in Sept. 23 NPN.)

	Week Ended Sept. 12, '42	Week Ended Sept. 5, '42	Week Ended Sept. 13, '41
Crude runs to stills (Da. avg.)	3,710,000	3,656,000	4,063,000
Gasoline production at refineries including natural blended	11,255,000	11,232,000	13,725,000
Finished & Unfinished gasoline stocks	81,758,000	80,356,000	79,485,000
Gas oil & distillate stocks	43,567,000	42,819,000	48,953,000
Residual fuel oil stocks	78,633,000	78,267,000	94,560,000

PRODUCTION NEWS



East Texas Water-Injection Program Approved by OPC to Increase Output

NPN News Bureau

WASHINGTON — The ultimate recovery of crude in the East Texas oil field will be boosted by at least 200,000,000 bbls. as result of the first step in a pressure maintenance project just approved by OPC, the coordinator's office reported Sept. 10.

WPB has promised a priority high enough to assure required materials, so that the first unit in the program can be completed by or before August, 1943, according to OPC, which explains:

"The project was initiated by E. DeGolyer, assistant deputy petroleum coordinator, and is to be undertaken by the East Texas Salt Water Disposal Co. as the first segment of a comprehensive program under which the water produced from the East Texas field in connection with the production of oil will be injected back into the lower part of the Woodbine sand for the purpose of maintaining bottom-hole pressures."

Pressure Down

Production of oil and water has been so reduced in recent years, OPC says, "that engineers estimate that, unless water is reinjected into the formation, the field will yield from 200,000,000 to 800,000,000 less bbls. of oil than it would if pressures were maintained at proper levels."

Flowing life of the wells would be shortened, hastening the day when large quantities of steel and other critical materials would be required for pumping equipment, OPC added.

Daily injection into the Woodbine sand of 90,000 bbls. of water is planned by the Salt Water Disposal Co. Six injection wells will be employed. Jan. 1 is tentative starting date for the construction of pressure unit, with cost in neighborhood of $500,000. Much of the materials used will be second hand, OPC explains, adding:

"Ultimately, the company's program calls for the construction of injection facilities having a capacity 4 times that of the initial project. It is also proposed to purchase existing salt water injection facilities having a capacity of 160,000 b/d, of which about 80,000 bbls. is now being utilized.

Salt Exceeds Oil

"At present the East Texas field is producing about 450,000 bbls. of salt water daily, which is in excess of the current oil production rate. Moreover, the rate of water production is increasing. This withdrawal of water from the reservoir has the same effect on the reduction of reservoir pressure as would be equivalent withdrawal of oil.

"Thus, it is causing a much more rapid pressure drop than would occure if the water were not withdrawn or if it were returned to the sand. The result, obviously, is a substantial lowering of the oil productive capacity of the field.

"From the standpoint of saving this oil, the expenditure of steel for the water injection facilities will be a far better exchange of steel for oil than can be effected elsewhere in the petroleum industry."

Consider Placing Texas Allowables On a Lease Basis

Special to NPN

AUSTIN—Something new in the governmental trend—the lessening of restrictions—may be in store for Texas oil producers after the statewide proration hearing of the Texas Railroad Commission Sept. 17.

Chairman Ernest O. Thompson said the proposition of allowing production to be made on a lease basis rather than a well basis will be put up to the oil men for a discussion.

Under the new proposal, an operator who has 15 wells on his lease, each allowed to produce 20 b/d, will be given a lease allowable of 300 b/d regardless of which wells produce the oil. Col. Thompson said this would save much time and much paper, because now records must be kept on each of 100,000 wells, whereas there are only 19,000 leases.

Col. Thompson pointed out that the commission has recently permitted operators to produce all their oil from the wells on their leases that have the most efficient oil-gas ratio. For example, if one well produces oil with a ratio requiring 10,000 cu. ft. of gas to lift each barrel of oil, and another well requires only 400 cu. ft., the commission permits the allowable production for both wells to come from the well with the most efficient ratio.

Suggests Unit Operations To Save Equipment

NPN News Bureau

WASHINGTON—Important savings in steel consumption can be made if lease operators will give careful study to planning arrangements of storage tank batteries and other facilities on oil-producing properties, OPC points out.

"Following the principle of consolidating leases to eliminate the drilling of unnecessary wells, thereby reducing the consumption of steel," OPC says, "it may be advisable in many instances to consolidate presently-developed leases so that a portion of the equipment may be made available for use elsewhere."

A recent study in District 2 indicates approximate savings in steel tonnage, by consolidating two 20-acre leases to form one 40-acre unit, thus avoiding duplication of lease equipment, OPC said in its Sept. 14 announcement.

Alleged M-68 Violators Penalized, WPB Says

NPN News Bureau

WASHINGTON—WPB announced today that it has penalized two California operators for alleged violation of Conservation Order M-68 and imposed the same restrictions on each operator.

WPB said that a well was drilled in each of the Huntington Beach and Torrance, Calif., fields in violation of M-68, and ordered in Suspension Orders S-95 and S-96—effective Sept. 14—that neither well shall be operated for more than a total of 60 days in the 90-day period beginning Sept. 14 and after 90 days the wells must be operated in accordance with WPB instructions.

S-95 applied to Herbert S. Kohlbush and S-96 applied to Chester F. Dolley.

Senate Committee Rejects Proposal On Depletion Tax

NPN News Bureau

WASHINGTON—By a vote of 12 to 6, Senate Finance committee, Sept. 11, rejected Treasury Department's proposal that intangible drilling costs be retained and made a part of the statute, but that it be used as device to off-set and eliminate a large part of percentage depletion allowance.

Formal objections to this proposal were made to committee by Senators Connally, Tex. and Guffey, Pa.

Gist of both Senators' objections was that the intangible drilling costs are the costs of putting a hole in the ground, and when this is paid for, all that an operator has to show for it is a hole in the ground. It was pointed out that such holes have no salvage or removing value and that they are current producing expenses, not capital costs, as contended by Treasury Department.

Treasury's contention that the 2 deductions (intangible and drilling costs) result in a "double deduction" is, Sen. Guffey says, "erroneous and downright misleading."

"The phrase 'double deduction' is simply a catch-word upon which the issue here can easily become clouded," Sen. Guffey added.

Broaden California Study On Crude Oil Costs

NPN News Bureau

LOS ANGELES—The study of heavy crude oil production costs in certain California fields, being made by the United States Tariff Commission, has been extended to include all heavy crude oil fields in the state, according to the California Stripper Well Assn.

Oklahoma Eyes Idle Wells For Salvage Value

Special to NPN

OKLAHOMA CITY — Oklahoma Corporation Commission inspectors are again checking various oil fields throughout the state to determine the number of idle stripper wells that may be abandoned and the material used elsewhere.

"We are making the check at the request of OPC," J. J. O'Loughlin, conservation office, said.

U. O. P.
hydrogen fluoride process

We want you to know that Universal has developed and has licensed for commercial operation the hydrogen fluoride alkylation process

Installations are under construction in a number of refineries

This process is of enormous wartime importance because it uses more of the available olefins for alkylation than could ever be utilized before because:

It not only reacts isobutane with butylene, but it goes further It reacts isobutane economically with propylene and pentylenes too

That means greater production of alkylate and nothing the refiner can make today is more important than alkylate because it is a vital component of 100-octane fighting aviation gasoline

Universal processes and Universal designs are at the service of all refiners—under license from Universal

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Owner and Licensor

THE REFINERS INSTITUTE OF PETROLEUM TECHNOLOGY

Oil TRANSPORTATION

ODT Truck Control Order Not Clear to Oil Truckers

NPN News Bureau

WASHINGTON—ODT's general order taking over control of virtually every commercial vehicle in the U. S. is ten days old but is still puzzling oil companies and other users of trucks, as well as for-hire truck transporters.

They are agreed, however, that the ODT order, requiring every truck to obtain a certificate of war necessity by Nov. 15 was broad enough for ODT to exert most any control it wishes over trucks through these certificates. In other words, ODT can require truckers to comply with its instructions as a condition to granting of such certificates.

Neither ODT nor OPC sources could say how the order would affect local delivery tank trucks. Under the order, ODT apparently could require curtailment and pooling of deliveries.

May Switch Tank Trucks

As to over-the-road transport tank trucks, ODT source said that tentative plans have been already made for transferring such tank trucks from one area to another in case of shortages of oil transportation this winter.

Emphasizing that the plan is "tentative", one ODT official said that one "probable" area to be assigned more trucks was New England where until recently there had been a surplus of tank trucks. But, with the fuel oil season coming on and tieing trucks into the trainload plan, more trucks may be required in New England.

Chicago district is another area which might be assigned trucks from other areas. It is estimated that there are 8000 short-haul tank carloads monthly which have not been eliminated because of insufficient trucks.

To implement these transfers, the ODT order provides for compulsory leasing of equipment on instructions by ODT.

Application blanks are to be mailed, beginning Sept. 23, by the ODT's central mailing office in Detroit which will send them out to every commercial vehicle operator in the country by regions and when mailing has been completed for each area, it will be announced so that operators in each area may contact field offices to obtain application blanks if they have not received theirs within a few days after announcement that applications have been mailed to their area. Addresses of 142 field offices will be announced later.

The applications will contain data on loads and miles traveled to guide ODT in issuing the certificates which will be mailed mostly from Detroit although field offices will handle fleet certificates.

As for the information to be contained on the back of the war necessity certificate, ODT said individual tank truck operators probably would be required to keep only the total miles traveled each week, although this might differ in the case of fleets.

Details Not Yet Completed

It was emphasized that all of these operating details have not been worked out completely. *(See NPN Sept. 9, page 8, for complete text of ODT order.)*

Meantime, OPA sought to back up the ODT order by announcing that sometime between now and Nov. 15, effective date of the order, it will amend tire rationing regulations to require that commercial vehicle operators present a certificate of war necessity and show that they are complying with the mileage limitation before tires are rationed to them.

In this connection, it was learned that OPA is writing instructions to guide tire inspection agencies, called for the ODT order, which are to inspect commercial tires once every 60 days or once every 5000 miles.

Tank Trucks Exempt From Canada Order

Special to NPN

OTTAWA—Trucks with tanks mounted on the chassis for the purpose of carrying bulk liquids (including gasoline) are exempted from Canada's order prohibiting privately-owned trucks and trailers from operating on more than a 35 miles radius from their registered addresses.

The order was made by James Stewart, Toronto administrator of services of the Wartime Prices and Trade Board and goes into effect on Nov. 1. It is designed to conserve the life of existing equipment so that essential delivery services may be maintained as long as possible.

Other vehicles exempted from the order are: government owned or operated vehicles; trucks whose primary carrying capacity is occupied by mounted machinery; public utility vehicles used exclusively in services essential to its construction and repair; ambulances; tow trucks; fire fighting vehicles; civilian defense; police cars; vehicles for servicing farm equipment; and cars used by manufacturing plants and grain elevators.

Operators who feel that their operations require a greater radius than 35 miles may apply to the administrator for a permit before Sept. 30. Permits will not be granted to retailers or peddlers making deliveries to the ultimate consumer.

Plans to Refute Charges, Tapco Official Says

NPN News Bureau

WASHINGTON — To "refute some charges made against Trans-American Pipe Line Corp.," Aldace Walker, Tapco vice-president, is tentatively scheduled to reappear Sept. 18 before special House committee investigating petroleum and synthetic rubber (Fitzgerald committee).

Tapco hopes to build crude line from Tinsley, Miss., field to Savannah, Ga.

Petroleum Coordinator Ickes labeled this line "a speculator's dream" at Sept. 10 hearing before this same committee. See story page 6.

Oil Needs No Unit Permit To Ship into Port Areas

NPN News Bureau

WASHINGTON — Petroleum is exempt from ODT General Order No. 16 requiring unit permits for shipment into port areas for export. Exemption was granted in Exception Order 16-2, effective September 12, which also was the issuance date.

A spokesman explained that the order was designed to regulate flow of export goods into port areas and required ODT permits even though oil companies moved their oil into private storage. This, said the spokesman, caused "confusion and delay" and it was thought better to exclude petroleum from the order which went into effect on August 1.

200-Mile Minimum on Tank Car Hauls Brings Trucking Equipment Problems

NPN News Bureau

WASHINGTON — Raising the limit on tank car use to 200 miles will provide much more tonnage for truck movement but some for-hire truckers in some areas doubt that they can handle this new volume of business—unless they are given some of the equipment now owned by marketers.

Some marketers, on the other hand, have complained to government authorities here about "paying tribute" to for-hire truckers when hauling for themselves out of their suppliers' terminals.

Some regard this as a "dog-in-the-manger" attitude on part of truckers because, they say, the trucker holding contract to haul for the particular refiner doesn't have the equipment himself to handle all the tonnage being diverted from the rails.

Marketers in several sections, also, are urging that even smaller tank trucks be pressed into service to replace tank cars.

ODT Order Provides Power

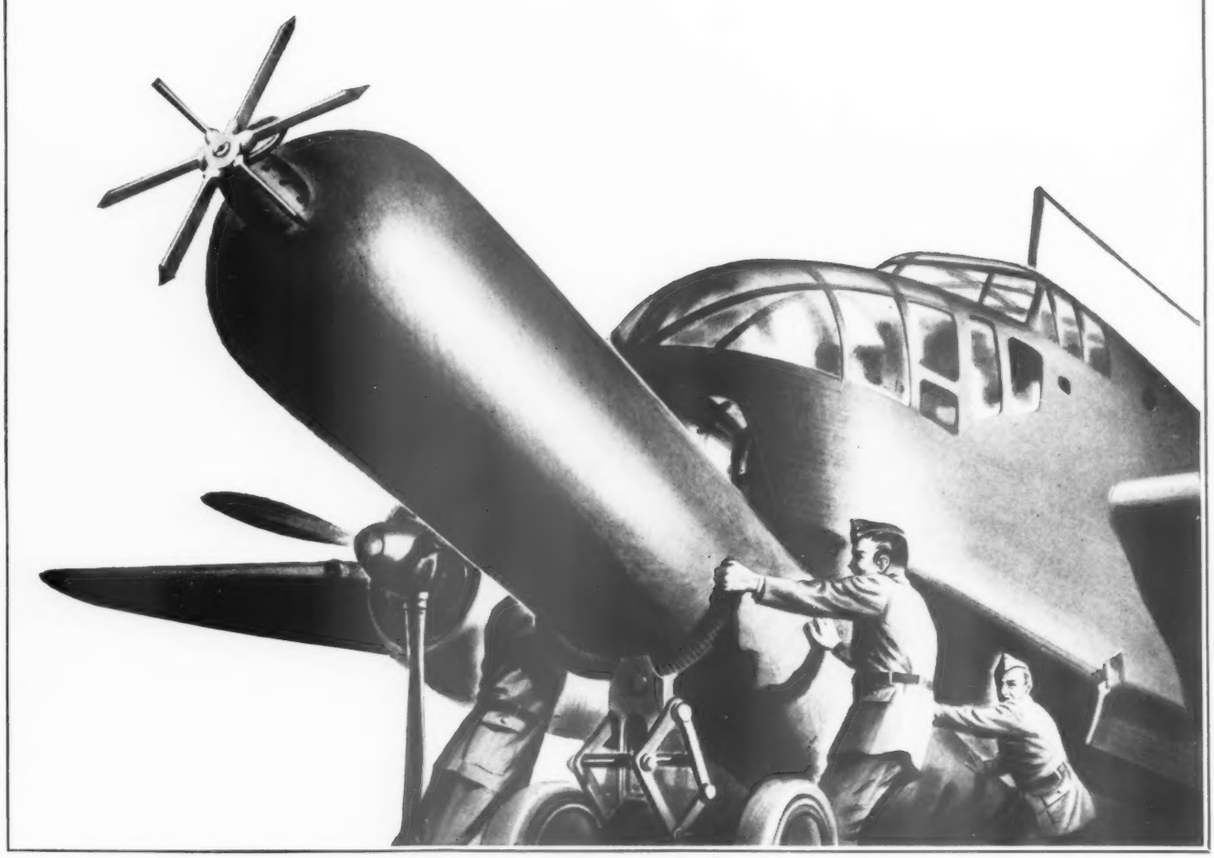
Under ODT Order No. 21, Officer of Defense Transportation can compel leasing of trucks and transfers from one area to another.

Private carriers—that is, marketers operating their own trucks—are talking of seeking legislation or an executive order that would lift all ICC restrictions on truck use. In other words, let any private carrier anywhere haul as much for any shipper as he could.

Working from opposite point of view, a non-oil group here has prepared a bill for introduction in Congress—possibly within next week or so—which would apply the so-called commodities clause to trucks. That would mean no shipper could haul his own goods by truck.

Putting Teeth
INTO AUTOCAR HALF-TRACKS
And Autocar Half-Tracks are putting teeth into the United Nations' war power—as fast as Autocar can build them. All-out production for war is grim business. But make no mistake about this: It is also a tonic to product development and inventiveness. It's your guarantee and our pledge that Autocar *Trucks* will be even better and stronger at war's end. . . . Remember the pledge you signed when you joined the U. S. Truck Conservation Corps. Your trucks are your own, but their life belongs to the Nation.
AUTOCAR
MANUFACTURED IN ARDMORE, PA.
SERVICED BY 51 FACTORY BRANCHES
FOR VICTORY
BUY
UNITED STATES
WAR
BONDS
AND
STAMPS

Torpedoes have high I.Qs.



THE "MIND" of a torpedo is unbelievably complicated.

It "thinks" with a whole series of tiny engines of watch-like delicacy. This "mind" can direct a torpedo to:

—travel deceptively in the wrong direction, then suddenly change its course and head straight for the target...

—vary its depth to pass cleanly under a friendly vessel before hitting a target on the other side of the friendly boat...

—obligingly sink after covering a given distance without hitting a target, preventing itself from becoming a navigational hazard.

The malfunction of even one of the more than 1300 parts in the torpedo's "mind" may mean a miss—at $16,000 per miss! Or it may mean that the tin fish will circle and hit the very ship that fires it!

It seldom means either—*because of oil.*

For the mechanical brain of the torpedo is carefully treated with a special, fine torpedo-engine oil at the factory. This oil lubricates thoroughly without making the tiny parts gummy or sticky.

And though it may not be fired until months later, the torpedo's "mind"—still perfectly lubricated—will steer it unerringly into the target.

Petroleum's thousand-front war effort

Virtually everything that moves requires lubrication! The gigantic war job of the American oil industry is to devise, compound, and deliver specific lubricants for the thousands of specialized friction problems encountered by a war machine.

We are proud of Gulf's part in this thousand-front effort. GULF OIL CORPORATION.

ICC Examiner Finds Charges Too High On Asphalt from Southwest to Indiana

NPN News Bureau

WASHINGTON—A recommendation that rail rates on movement of asphalt from the Southwest or Tulsa group (Oklahoma Group 3) to Indiana destinations be brought into line with rates on other low-grade products between the same territories has been made to the ICC.

In a report collectively embracing 11 proceedings on petroleum products below the grade of kerosine, ICC Examiner W. A. Disque has recommended that all complaints be dismissed, except in the instance of asphalt movement. The docket numbers of these proceedings are 28760, 28760 (Subs-Nos. 1 to 5, inclusive), 28782, 28793, 28801 and 28817.

Complaints in the proceedings included over 100 independent jobbers, farmer co-operatives and about 10 independent refiners operating in Arkansas, Oklahoma and Texas, whose products the jobbers and co-operatives handle. These complainants, the report said, allege that the rates on low-grade products are unreasonable and unduly prejudicial between the Southwest and North Central States.

Confined to Local Sources

In the case of rail rates on products from the Tulsa group to Indiana, they are so high, Mr. Disque said, that Indiana buyers are practically confined to buying from local refineries.

Whereas all low-grade products ordinarily take the same rate, this is not so to Indiana destinations, the ICC examiner reported, as asphalt rates, at least from the Tulsa group, are made on a different basis.

This basis is the rate to Illinois, plus 70% of the sixth class rates beyond, except that there are single-factor commodity rates on asphalt from and to certain points, which, as applied from and to intermediate points, are less than the combinations.

Where the combinations apply, Mr. Disque said, they are less than the class D rates, but from 1c to 4c higher than the rates on other low-grade products.

The commission should find, Mr. Disque concluded in his report, that the rates are not unreasonable on low-grade product rates except where and to the extent that those on asphalt to Indiana destinations exceed the rates that are or hereafter may be concurrently in effect on the other low-grade products and appropriate orders should be entered.

ICC Calendar on Oil Transportation

B. W. Belyea Extension—No. MC-37375 (Sub-No. 6)—Public convenience and necessity found not to require operation by applicant as a common carrier by motor vehicle, of petroleum products in bulk, in tank trucks, and in containers, from points in Kern, Ventura, Los Angeles, and Orange Counties, Calif., to points on the United States-Mexico international boundary at the ports of entry of Calexico, San Ysidro, and Tecate, Calif., over irregular routes. Application denied.

° ° °

W. A. Sabin and Son Common Carrier Application—No. MC-30359—Upon reconsideration findings in prior report, 30 M.C.C. 417, modified so as to authorize operation by applicants as a common carrier by motor vehicle, in addition to the authority granted in the prior report, of petroleum products in bulk, from Providence, East Providence, and Tiverton, R. I., and Fall River, Mass., to all points in Connecticut on and east of Connecticut Highway 32, over irregular routes. Issuance of a certificate approved upon compliance by applicants with certain conditions, and reopened portion of application denied in all other respects.

° ° °

R. B. Wilson—No. MC 9895 (Sub 23 TA)—Temporary authority granted until Dec. 31, 1944, unless otherwise ordered, to haul petroleum products in bulk and tank trucks over a regular route, from Texas Co. refinery, near Casper, Wyo., to the Sioux ordnance depot near Huntsman, Nebr., from the Texas Co. refinery, near Casper, Wyo., over U. S. Highway 87 to Junction of U. S. Highway 26, thence over U. S. Highway 2 to junction of Nebraska Highway 19 thence over Nebraska Highway 19 to Huntsman, Nebr., and thence over unnumbered highway to the Sioux ordnance depot. Service is not authorized at intermediate points.

° ° °

Transport Service, Inc.—No. MC-103948 (TA)—Temporary authority granted until Dec. 31, 1944, unless otherwise ordered, to haul petroleum products in bulk and tank trucks, over irregular routes, from Bettendorf, Iowa, to points and places in Illinois within 100 miles of Bettendorf.

° ° °

Terminal Transport Co.—No. MC-103947 (TA)—Temporary authority granted until Dec. 31, 1944, unless otherwise ordered, to haul petroleum products in bulk and tank trucks, over irregular routes, from St. Paul tank farm, Rose township, Ramsey County, Minn., and Minneapolis and St. Paul, Minn., to points and places in that part of Wisconsin within 100 miles of Minneapolis and St. Paul, Minn.

° ° °

Union City Transfer—No. MC-32528 (Sub 13 TA)—Temporary authority granted until Dec. 31, 1944, unless otherwise ordered to haul oil field and refinery equipment, materials, and supplies, over irregular routes, between points and places in Alabama and Georgia, on the one hand, and, on the other, points and places in Louisiana, Mississippi and Texas.

° ° °

Owners Trucking Co., Inc.—No. MC-16081 (Sub 4)—Permit granted as contract carrier by motor vehicle of petroleum products in bulk and tank trucks over irregular routes, from Utica, Big Flats, Vestal, Johnson City, and Harriet, N. Y., to points and places in that part of Pennsylvania on and east of a line extending from Lock Haven, Pa., through Sayre, Pa., to the Pennsylvania-New York State line, and on and north of a line extending from Lock Haven, Pa., through Williamsport, Sunbury, Berwick, Hazleton and Easton, Pa., to the Pennsylvania-New Jersey State line, with no transportation for compensation on return, except as otherwise authorized.

° ° °

Willett Co.—No. MC-20697 (Sub 11 TA)—Temporary authority granted until Dec. 31, 1944, unless otherwise ordered, to haul petroleum products in bulk and tank trucks over irregular routes, from Cincinnati, O., to points and places in Indiana within 100 miles of Cincinnati.

Rail Haul to East Gains During Week

NPN News Bureau

WASHINGTON—Tank car hauls of crude and products to the East Coast climbed slightly during week ending Sept. 5, averaging 824,850 b/d when 27,495 cars were loaded. During the previous week, average daily shipments totaled 823,260 bbls., while 27,442 cars were loaded.

Individual company loadings for week ending Sept. 5 were reported as follows:

Allied, 26 cars; American Bitumuls, 69; Amsco, 221; Arkansas Fuel, 261; Ashland, 139; Asiatic Petroleum, 18; Atlantic Refining, 3029; Aurora, 38; James B. Berry Sons, 4; Chalmette, 63; Cities Service, 1528; Conoco, 360; Crown Central, 75; Daugherty Refinery, 19; Gulf, 2044; Hartol, 260; E. C. Johnston, 14; Old Dutch, 15; Pan American, 1807; Petrol Corp., 237; Petroleum Heat & Power, 207; Phillips, 49; Pioneer Asphalt Co., 4; Pure, 366; Roosevelt, 3; Royal Petroleum, 17; Shell, 985; Sinclair, 2768; Socony-Vacuum, 2774; Kentucky Standard, 530; New Jersey Standard, 4755; Sohio, 61; Sun, 1922; Talco, 53; Texaco, 1954; Tide Water, 819, and Canfield, 1.

To Start Construction Of Florida Pipeline

NPN News Bureau

WASHINGTON—Construction of the trans-Florida pipeline from Carabelle to Jacksonville is scheduled to start about Oct. 1 with completion anticipated by Dec. 15, Petroleum Co-ordinator Ickes reports.

Bids will be opened Sept. 15 by the Trans-Florida Pipeline Corp. which is in charge of building the 35,000-bbl. a day products pipeline for which 3 storage tanks, with a total capacity of 172,000 bbls. have been dismantled and are on the way to Florida.

RFC Will Finance Tiffin-Akron Line

NPN News Bureau

WASHINGTON—Construction of as 82-mile, 8-in. pipeline from Tiffin, Ohio, to a point near Akron has been approved and will be financed by RFC's Defense Plant Corp.

This line will be owned by the government, and Ohio Emergency Pipe Line, Inc., a Delaware corporation, is the name of organization which will build it, according to OPC. Corporation is formed by Shell, Ohio Standard and Sun.

Petroleum products pumped through the line will be delivered to Sun at Akron for movement through the Sun-Susquehanna pipeline system to Newark, N. J.

Capacity is expected to be about 15,000 bbls. of products daily, with completion date of approximately Nov. 10, OPC says.

RFC to Finance Extension Of Plantation Line

NPN News Bureau

WASHINGTON—RFC's Defense Plant Corp. will finance a 175-mile extension of the Plantation Pipeline from Greensboro, N. C., to Richmond, Va., which will have a daily capacity of 30,000-gal of gasoline and light products, Commerce Secretary Jones announced today.

Plantation will construct the $3,600,000 extension, with completion expected in four months, and will operate the line for DPC's account.

The 175-mile section will be made of 8-in. secondhand pipe.

6166 OPC Permits Issued Under Directive 57

NPN News Bureau

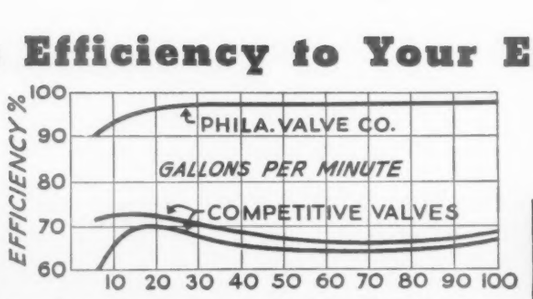
CHICAGO — Exceptions granted by special permit to allow gasoline shipments by tank car in the 20-state area covered by OPC Directive 57 numbered 6166 as of Sept. 10, Walter DuMont, OPC District 2 transportation director, has informed NPN.

Majority of permits granted, Mr. DuMont said, were for shipments into argicultural areas.

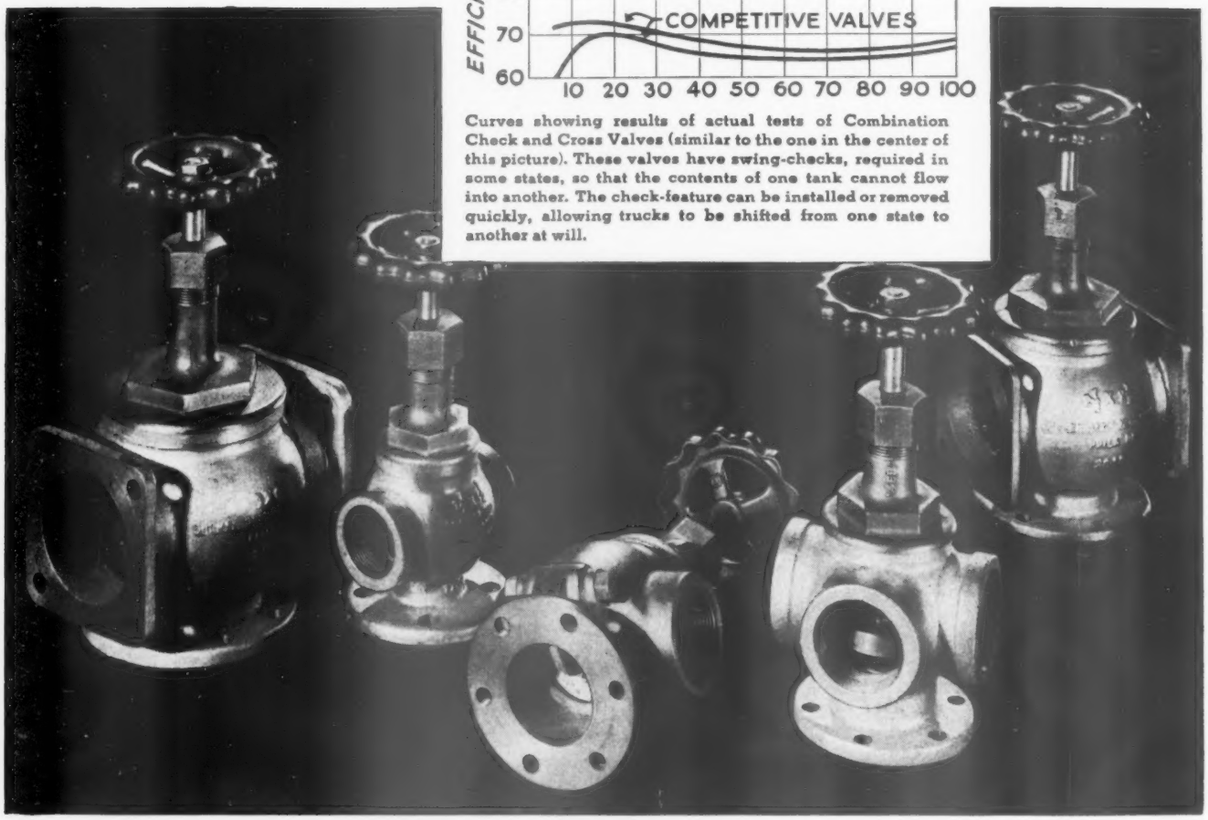
He revealed that the District 2 supplies and distribution subcommittee is studying the problem of moving lake tankers to Duluth and Superior water terminals to aid in stocking up fuel oil supplies before the lake freezes.

By states, permits issued under Directive 57 were: North Dakota, 1309; South Dakota, 693; Minnesota, 1519; Wisconsin, 1250; Michigan, 271; Illinois, 418; Iowa, 516; Nebraska, 138; and Indiana, 52.

This Graph Talks Efficiency to Your Engineers



Curves showing results of actual tests of Combination Check and Cross Valves (similar to the one in the center of this picture). These valves have swing-checks, required in some states, so that the contents of one tank cannot flow into another. The check-feature can be installed or removed quickly, allowing trucks to be shifted from one state to another at will.



BUT THESE CROSS-VALVES TALK DOLLARS TO YOU

BY GIVING MANIFOLDED TRUCK-TANKS UNRESTRICTED FLOW

Philadelphia Cross Valves have a very important bearing on your profits. Used to manifold the various different compartments of a tank truck, they carry their flow so rapidly, under any pressure, that manifolded tanks can be unloaded just as fast as if delivery were made directly to the hose. This often results in extra deliveries per day, lower delivery costs, or even fewer trucks in service. . . . Your engineers will read the facts quickly from data we will be glad to show them. The secret is simply a matter of careful interior streamlining, proper size channels and discs. . . . Their sturdy construction protects your delivery schedules—bronzes which defy the battering-action of service. Heavy-type 5/8" bronze stems which won't bend if driver steps on handles. Handles which can't break because they are malleable iron. . . . Philadelphia Cross Valves can be fitted as replacements on your present trucks. They should be specified on new equipment, together with our entire line of equipment for increasing unloading speed by as much as 100%. Our engineers will be glad to make recommendations including costs and potential savings. Write.

PHILADELPHIA VALVE COMPANY

ARAMINGO AVENUE AND ONTARIO STREET, PHILADELPHIA, PA.

PACIFIC COAST DISTRIBUTOR, OIL MARKETING EQUIPMENT CO., 325 FREMONT STREET, SAN FRANCISCO, CALIF.

Full Text of Baruch Report on Rubber Problem

Herewith in full text is one of the most important documents our government has ever issued in regard to the oil industry.

It is the special report on our rubber supply and on the creation of a vast new synthetic rubber industry, as prepared by the special Presidential committee of Messrs. Baruch, Conant and Compton.

While the report appears long, it is easy and interesting reading. And it also is important reading for every oil man, as his business and his livelihood will depend on the success and dispatch with which the report's recommendations are carried out.

The report is a clear statement of the entire rubber situation. It is not just the opinion of three men, but it is the findings of fact of a staff of 25 experts. These facts have been sifted out by two of the world's great scientists and one of the world's great business experts.

The report gives the facts about the various synthetic rubber processes, both from petroleum and from alcohol, about which there has been so much misinformation especially at Washington.

The report is severely critical time and again of the Administration's mishandling of the rubber situation. In fact, we do not recall a report so vehement in its criticisms of elements of the New Deal that the New Deal ever before has released.

On this report, the oil industry, the rubber and chemical industries and the country can build a supply of rubber sufficient for all reasonable war and civilian needs and the report says just that; providing, it adds, if the Administration will not meddle with its program and will see that only the most competent men are put in charge and that rubber manufacturing plants are given priority precedence along with the most important of the Army and Navy war materials.

It is one government report that every oil man should read in full.

Warren C. Platt

Statement of Problem

Of all critical and strategic materials, rubber is the one which presents the greatest threat to the safety of our nation and the success of the Allied cause. Production of steel, copper, aluminum, alloys or aviation gasoline may be inadequate to prosecute the war as rapidly and effectively as we could wish, but at the worst we still are assured of sufficient supplies of these items to operate our armed forces on a very powerful scale. But if we fail to secure quickly a large new rubber supply our war effort and our domestic economy both will collapse. Thus the rubber situation gives rise to our most critical problem.

Our position with respect to this vital commodity may be briefly outlined as follows:

The demands now placed upon us are enormous. Without any allowance whatsoever for civilian passenger car tires, the estimated requirements for the year 1943 are 574,000 tons. This contrasts with the total average over-all consumption in the United States before the war of over 600,000 tons. We must supply not only the needs of our own armed forces but much of those of the military machines of our Allies as well. We must equip our buses and trucks and other commercial vehicles and provide on a large scale specialty items for such purposes as factory belting, surgical, hospital and health supplies. And in addition to all these we *must* maintain the tires on *at least* a substantial portion of our 27,000,000 civilian passenger automobiles. Otherwise an economy geared to rubber-borne motor transport to an extent not approached elsewhere in the world will break down.

To meet these demands we may look to four main sources of supply:

First, our present stockpile of natural rubber and such additions as may come to it from natural rubber imports from Latin America, Africa, and other rubber-producing lands. These are comparatively small.

Second, our present stockpile of scrap rubber, estimated as sufficiently large with yearly additions to operate our reclaiming industry at present capacity through the year 1945.

Third, the production of synthetic rubbers.

Fourth, we possess in the tires of our automobiles a priceless reserve, which must be guarded with greatest care. It represents a stockpile of some 1,000,000 tons of rubber applicable to the uses of our civilian transportation and the needs of the day to day life of our people.

Having lost to Japan 90% of our prewar source of natural rubber, chief reliance on new supplies of rubber must be placed on the new synthetic rubber program. But to obtain this in time we must, within two years after Pearl Harbor, have created one of the largest industries in the country. Normally such a development would require a dozen years. To compress it into less than two years is an almost superhuman task.

Our Committee is convinced that the Government's present program is technically sound. From this time on the important thing is to get on with it without further delay.

In drawing up the recommendations which follow the Committee has sought to find a basis upon which the entire nation can go forward together, uniting our energies against the enemy instead of dissipating them in domestic wrangling. It appreciates that it is asking the public to make sacrifices because of mistakes that have been made and for which the people are not to blame. But wrong things done in the past cannot be cited as a defense for making mistakes in the future. The War demands that we go forward from this point united and resolved to win at any cost.

Procedure of Committee

This Committee was asked "to get the facts and make recommendations". To this end, immediately after its appointment it assembled a competent technical staff of approximately twenty-five men of whose competence we had knowledge through first-hand experience. With the aid of this group the Committee has endeavored as far as humanly possible in the time at our disposal to get the facts and draw from these facts the logical conclusions.

With the aid of experts in the art of rubber manufacture and rubber compounding and with the assistance of a group of chemists and chemical engineers, we checked so far as possible the chemical processes involved in the government program and those suggested by individuals and companies not yet included in this program. For this purpose members of our staff traveled throughout the eastern, southern, and middle western sections of the country, examining plants, consulting the technical experts concerned with the progress of the program and in the construction of new facilities. With their aid, we also examined carefully the present status of all tests throwing light on the adequacy of the new synthetic materials for military and civilian purposes, as well as the potentialities of numerous materials which have been suggested for the recapping of tires or special uses in the rubber program. We also examined at first hand into the condition and state of protection of the nation's stockpile, which must serve as the essential backlog of our efforts until synthetic materials can be brought into substantial production.

Special checks likewise were made by men competent in business and engineering associated with the Committee, as to the rate of construction of scheduled plants and the situation with respect to the allocation of strategic materials to these plants and the granting of the necessary priorities. The capacity of the country to produce the essential raw materials for the development of the synthetic program also was checked. We have endeavored with the aid of competent assistance to evaluate the potential requirements of this country and the United Nations and have made our estimates of the probable supply, present or to come.

In addition to interviewing, through our staff, a number of persons familiar with the various aspects of the rubber situation, we heard formally many officials of the Government as well as representatives of industry. A great number of documents from governmental and other sources were put at our disposal,

and we examined these records with care. The printed records of hearings before the committees of Congress which deal with this subject run to many pages. We reviewed the evidence thus presented as of value on many points. All of the Congressional Committees who had interested themselves in the problem were asked for their suggestions or recommendations and many stimulating suggestions were made. Particularly helpful were the Committees under the chairmanships of Senators Truman, Gillette and Murray. In conclusion, it is a pleasure to acknowledge that from all with whom we have been in touch we have received the maximum of cooperation.

Analysis of the Supply and Demand for Rubber

The natural starting point for a consideration of our national rubber problem is an estimate of the essential needs during each of the next few critical years, and a corresponding estimate of the sources of supply from which these needs may be met. Many such balance sheets of the national position have been drawn up by various governmental agencies during the past eight months, and authoritative revisions must be made from time to time to give warning if our program is running behind expectations, or to give opportunity to make additional important military uses of rubber if the program should run ahead of schedule, or to relax restrictions on civilian driving.

In arriving at the data presented in the following tables, which form the principal bases of the Committee's conclusion, we have tried to be neither unduly optimistic nor unnecessarily pessimistic. The figures in each case represent our best judgment of expected performance. We realize, and this should be continually borne in mind, that unanticipated events may change many of these figures substantially. We should also bear in mind that there are many more circumstances which might arise to change the figures unfavorably than there are to change them favorably. Such circumstances are likely to arise for human rather than technical reasons, and some of these circumstances will constitute the basis of recommendations in Sections 7 and 8.

Considering first the anticipated supplies of all types from all available sources, our estimates are presented in Table I. In this table have been included certain additions of neoprene and thiokol to the present governmental program, in accordance with recommendations presented in Section 6. However, the recommendations there given for increasing the supply of buna S rubber as a safeguard for the critical year of 1943 and a backlog to maintain civilian transportation after 1944 are not included in this table.

Table I—Supply*

Before any consumption, the supply of rubber available to the United States, as estimated by the Committee's staff, is as follows (in thousands of long tons):

	Present Stocks July 1, 1942	Expected 1942 6 mos.	Additions 1943	Additions 1944
Natural	578	12	41	68
Buna S		0	386	705
Neoprene		4	30	59
Butyl		0	62	132
Thiokol		0	54	60
Reclaim	47	160	360	400

*This table does not include small amounts of Buna rubbers produced from private sources in 1942.

Against these supplies of natural and/or synthetic rubbers, the presently estimated total requirements for various categories of essential use are presented in Table II. In our calculations the use of synthetic rubbers has been stated in terms of equivalent tonnage of natural rubber by the use of factors depending upon the specific gravities and resistances to wear of the various types of rubbers, as appropriate to the specific uses included under each classification. The item "private transportation" does not include the reclaimed rubber or synthetic materials necessary to maintain private passenger car transportation, these being shown in Table V. The item "private transportation" does, however, give the amount of natural rubber which would have to be used in addition to the reclaim and synthetic rubbers of Table V as a cement in recaps and new tires made of reclaim. The item "British deficiencies" shows the expected requirements of the British Empire excluding Canada as its accumulated stockpile of natural rubber is consumed.

Table II

The total requirements of natural and or synthetic rubbers (in terms of natural) are estimated as follows (in thousands of long tons):

	1942 6 mos.	1943	1944
Military	138	325	325
Private transportation	1	3	3
Commercial vehicles	28	59	85
Other civil uses	24	49	50
Foreign countries	74	117	103
British deficiency	0	24	106
	265	577	672

The item "commercial vehicles" in Table II refers primarily to passenger buses and trucks whose operations are controlled by the Office of Defense Transportation with cooperation of the Office of Price Administration in matters of rationing. Under the ODT steps have been taken to conserve rubber through consolidation and rerouting of commercial traffic, and as this is written, by an order requiring a certificate of necessity and imposing gasoline rationing. Our Committee believes that further savings can be made through elimination of cross hauls and more stringent substitution of alternative types of transportation not requiring rubber. Our estimates in Table II for commercial vehicles depend upon limitation of speed, conservation of tire wear and maximum proper loading.

The item "other civilian uses" includes several hundred items such as rubber hose, belting, electrical insulation, storage battery separators, industrial footwear, medical equipment, etc. The Committee has carefully examined the program of the Rubber Branch of WPB with reference to the elimination of unnecessary use of rubber in such items or the substitution of lower grades of rubber and is convinced that a thoroughly competent job has been done in reducing the use of rubber in such items to a point at which very little further reduction can be expected in this list. A few remaining possibilities are being actively studied by the Rubber Branch, but the sum total of all such possibilities is estimated to be so small that the time when the nation might run out of crude rubber could not be postponed more than ten days if all such reductions, some involving considerable hardship, were enforced.

An essential part of our rubber supply is in the form of reclaimed rubber secured from the stockpile of scrap rubber. To the estimated 47,000-ton stock of reclaimed rubber on July 1, 1942, is added year by year the additional amounts of such rubber which it is estimated can be produced by the capacity of our rubber reclaiming plants. These plants are not now running to capacity because of the governmentally enforced limitations in allocation of reclaimed rubber to manufacturers. The demands listed in Table III are based on the assumption that all possible excess of reclaimed rubber be allocated to maintenance of civilian passenger car tires. In order to secure these amounts for private transportation, and to insure adequate provision for military and other needs, the Committee recommends in Section 10 that plant capacity for producing reclaimed rubber be expanded as rapidly as possible above its persent limit of 350,000 tons per year, and the effect of such expansion is reflected in the estimates of "supply".

Table III

Supply and requirements of reclaim are estimated as follows (in thousands of long tons):

	1942 6 mos.	1943	1944
Supply	207	360	400
Requirements			
Military	37	84	84
Commercial vehicles	18	33	43
Other Civil uses	72	146	146
Foreign countries	18	21	21
Balance Available for Passenger Cars	62	76	106

If in the requirements in Table II we substitute the various types of synthetic rubber to the extent that they are expected to be available and for purposes for which they are suitable, we can, from Tables I and II, deduce

Success of Recap Plans Depend on Regulation

Following pointed paragraph is contained in the accompanying report of the Baruch Committee:

The average annual mileage of the passenger automobiles before the war has been estimated as approximately 9000 miles. Today the figure usually quoted is 6700 miles. It is clear that in the non-rationed areas the diminution in annual mileage is a result of voluntary restriction brought about largely by the fear that no further tires will be forthcoming for the owner of a private car.

There is every reason to believe that as soon as a tire replacement and recapping program were announced without restrictions, drivers would feel that the danger had been passed and would increase both their speed and their mileage to almost pre-war levels. If this were done the amount of rubber consumed by any recapping and tire replacement program would reach figures so large as to go beyond our expectations of supply in the critical year 1943—250,000-300,000 tons of Buna S, almost the entire production if the least optimistic estimate proves to be correct.

"And thank you, please, to stop making these?"

THERE'S a big difference between a device that enables a bombardier practically to drive a nail at 5000 feet and a closure that protects products in drums. But there is a *similarity* that is much more important: there are people on the other side (Atlantic and Pacific) who have good reasons for wishing that neither one had ever been made.

When you put a Tri-Sure Closure on a drum you provide a "convoy" for every drop in it—a convoy with three weapons that have always won out against leakage, pilferage and waste: (1) a *seal* which cannot be removed unless it is deliberately destroyed; (2) a plug which is always held tightly in place; (3) a *flange* which assures complete drainage.

If your job these days is to produce and deliver products that *cannot be wasted or pilfered* a big part of that job is to protect every drum you ship. Let us send you complete information on the sure way—the 100% safe way—Tri-Sure Closures.

AMERICAN FLANGE & MANUFACTURING CO. INC., 30 ROCKEFELLER PLAZA, NEW YORK

Tribute to Nation's Technologists

Following tribute to the nation's technologists is contained in the accompanying report prepared by the Baruch Committee:

It is fortunate that the program for the needed plants is generally in the hands of as competent engineers as there are in the country. Probably the most interesting and satisfying part of our study is the confidence we have acquired in the men from industry who have the plans in hand and who are satisfied they can lick the problem in the given time. Their competence and experience, their resourcefulness and ingenuity are the best guarantees we have that they can do so.

We have been much impressed with the fact that this stupendous undertaking is only possible because of the highly developed skill of our technologists. No one could have examined the facts before us without appreciating the magnitude and scope of the task; no one could have made this study without realizing that because of the shortsightedness and failure to act on technically sound advice we must now proceed with insufficient experience.

On this basis we venture the statement that never on the basis of so little has so much been involved. Under these uncertainties the only recourse is to provide ample margins when in doubt.

the amounts of crude natural rubber which we will have on hand at various times, as indicated in Table IV. In deriving this table we have reserved for civilian passenger car tire use all of the thiokol of Table I (since this material is not suitable for many other uses), and we have also reserved a small amount of Butyl rubber and a considerable amount of Buna S rubber in 1944 for similar purposes, as shown in Table V. With these reservations the amounts of natural rubber available in the U. S. are as shown in Table IV.

Table IV

Estimated crude natural rubber in the United States, after application of synthetic rubber substitutes (in thousands of long tons):

	1942 6 mos.	1943	1944
Balance on hand	578	328	224
Added during period	12	41	68
Requirements	262	145	51
Annual excess			17
Deficiency	250	104	
Balance carried over	328	224	241

The amount remaining for application to civilian passenger transportation is estimated to be as shown in Table V.

Table V

Rubber applicable to civilian transportation is estimated as follows (in thousands of long tons):

	1942 6 mos.	1943	1944
Crude natural	1	3	3
Buna S	0	0	185
Butyl	0	0	15
Thiokol	0	54	60
Reclaim	62	76	106

Two comments on the above tables are important. The first is that the amount of rubber available for civilian passenger car tires is a relatively small residual left over from a very large program, and must absorb the shock of any miscarriage of our plans. The Committee has assured itself that a strong effort has been made to hold the military, allied, and other civilian requirements to a minimum. Since the amount left over for civilian passenger tires is a small residue, any unfavorable change in the above figures would tend to squeeze out the amounts left for civilian driving. This is the strongest argument for a drastic program for conservation of the existing tires on civilian passenger cars, since any failure to conserve these tires, combined with either an increase in military requirements or a delay in securing the expected production of synthetic materials, would result in a complete breakdown of civilian passenger car transportation in 1944 or 1945.

The other important comment is that the balances shown for crude rubber in Table IV are very little above the requirements of prudence. This can be illustrated by examining the balance of 224,000 tons expected to be left at the end of 1943. This balance includes the inventories necessary to manufacturers of rubber goods in order that they may continue manufacturing operations without delays, caused by temporary transportation or procurement difficulties. Of this 224,000 tons, about 50,000 tons would represent a thirty-day inventory for American manufacturers, which is none too large. Another 4,000 tons can be considered as a reasonable inventory for Canadian manufacturers.

The Committee believes that at least 66,000 tons should be considered as an inventory of stocks on hand in Great Britain to permit her rubber goods manufacturing to proceed in case there should be several months' interruption of transportation on account of a possible change in the naval situation in the Atlantic Ocean.

Thus about 120,000 tons out of the 224,000-ton balance is to be considered a necessary "working inventory". The balance of 100,000 tons is certainly none too large for safety when one considers that a delay of two months in the presently expected production schedule for Buna S rubber would completely wipe out this balance. In this connection it must be remembered that a substantial amount of crude rubber must always be in hand to blend with synthetic materials for various important uses.

For these reasons the Committee feels that an analysis of the balance sheet indicates: (1) that we can survive the rubber crisis without serious impairment of our military program or domestic economy *if the plans go through on schedule*, but that (2) the margin of safety is uncomfortably small in view of reasonably possible unfortunate contingencies. The Committee therefore recommends in Section 6 certain expansion of the present program to aid the civilian driving program and as an insurance against such contingencies.

The Committee also recommends that WPB through the Rubber Administrator scrutinize all requirements, foreign and domestic, submitted for rubber to the end that only actual needs be allowed for.

Rubber Requirements of the Armed Services

The rubber requirements of the armed services have been stated in terms of over-all tonnage in Table II of Section 3. It would not be appropriate in this report to discuss the individual items which make up these requirements. Suffice it to say that our Committee has examined these requirements in some detail and submits the following comments.

It is reassuring to note that the Army has cut its requirements by about 45%; the Navy, by about 35% with expectation of raising this to 45%. These differences are largely on account of the differing types of requirements in these services, and the Committee believes that both services have handled their rubber conservation program sincerely and effectively. The Committee accepts at full value the statement that substantial further reductions cannot be made without a serious reduction in military efficiency. It also recognizes that large combat losses might, on the other hand, substantially increase the rubber requirements of the armed services above their present estimates.

The following comments amplify the general statement just made and are based upon the Committee's examination of the estimates and performances of these services. In general, the estimates are based upon:

(1) a recognition of the dangers inherent in the short supply of rubber;

(2) a sound method of calculation of needs on the present facts as to the size of the armed services. (The Committee does not attempt to measure the need for the items using rubber, but only the need for rubber is estimated if the items are purchased.)

(3) the establishment of an organization to develop and push the conservation program, with competent personnel, keeping in touch with all developments in the conservation of rubber;

(4) a quite complete policy as to the elimination of rubber articles formerly in use in the service and providing for substitutes generally where possible;

(5) a careful examination of all specifications covering rubber goods so as to reduce the crude rubber content, and increase the use of reclaimed rubber or substitutes;

(6) tests for utilization of rayon, nylon and steel (in place of cotton) which, being stronger, will demand less rubber;

(7) a comprehensive plan for conserving rubber in use and suitable orders and instructions covering its operation.

While there is no adequate measure as to the actual accomplishments in the field, the reports from inspection are encouraging in some spots and discouraging in others, but the organization set-up appears sound. In one area of extensive army training maneuvers where previous inspections had disclosed very wasteful practices in the use and abuse of tires, a recent inspection by the same experienced civilian group led to their report that the tires in this area were now being conserved with

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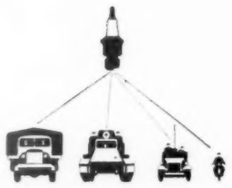

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We are doing everything within our power, and the limitations of material allotments, to meet the unprecedented demand for Champion Spark Plugs. We will not relax our efforts in this regard. Champion standards will always be of the highest—standards which have made the name Champion and the word "dependable" synonymous the world over.

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at least as good care as would be found in an operating fleet of commercial vehicles. This part—the making of the plan effective in the field—will require a vigorous follow-up, training of operating and inspecting personnel, aided by rigid inspections, and adequate disciplinary measures.

All these things can be done readily without interfering with military effectiveness. Three other aspects of conservation of rubber are under study by the services and some progress has already been made, but there is need for careful work and prompt decision as to whether:

(a) the conditions under which equipment will be used permit redesign of the equipment so as to save rubber, for example, the use of steel wheels or rims instead of rubber tires to a greater extent;

(b) the experience in combat does not warrant the use of equipment using either lower grade or less rubber, so that the rubber will not be planned to outlast the remainder of the equipment;

(c) requirements for spares cannot be materially reduced;

(d) inner tube requirements cannot be cut as tubes outlast tires;

(e) depreciation is not less than estimated, due to the conservation plans.

The full utilization of existing inventories through complete inventory control, the avoidance of purchases whenever possible, the scrutiny of all unusable items—both new and scrap—in inventory and providing for their prompt utilization in the armed services, or elsewhere in the war effort are matters now in hand but still demanding rigorous prosecution.

The armed services assure us that this entire program will be carried out to the limit.

The savings expected are not large and if attained they are enough only to provide a small factor of safety required for the whole national program.

Tires for Passenger Automobiles

The adoption of a policy for conservation of civilian-owned tires and its enforcement at the earliest possible moment is unquestionably the most urgent item still remaining unsettled in the rubber program. The cost to our war effort of not doing this would far exceed the cost in materials and rubber of doing it.

It must be remembered that practically nothing has been done during this year to supply tires for the 27 million passenger cars now on the road. In normal years about 250,000 tons of crude rubber has been consumed annually in meeting this demand. Many tires are now reaching the point where they will become unusable, and unless something is done at once to provide recaps and a limited supply of new tires we shall be headed for a drastic breakdown in the not far distant future. It has been estimated that by April of 1943, one-half of the tires on passenger automobiles will be worn to the point where they should be recapped. Clearly if such a condition is reached it would not be many months before our civilian economy collapsed.

In the Committee's opinion it is unfortunate that the Government was not able to institute a tire replacing and recapping program last spring. If it could have been done many billions of car miles of rubber would have been conserved. It is of the utmost importance that this program be instituted at once together with provisions for adequate tire inspection.

Experience has shown that out of every 100 tires ready for recapping only about 60 can be thus repaired. The other 40 tires must be replaced by new tires. It is primarily this fact which sets the limits to any program which can now be instituted for conserving our rubber-borne transportation through a recapping program. If on the prewar basis of replacements we were to decide tomorrow to provide enough new tires and recaps to carry the 27 million passenger cars through 1943, with unrestricted driving as to speed and mileage on the prewar level, some combination of crude and reclaimed, as for example about 200,000 tons of each, would be required. Clearly the allocation of such amount of crude rubber or synthetic material for the use of civilian passenger cars is fantastic.

The Committee must emphasize once again that the critical time for the country, as far as rubber for its military effort is concerned, is the third quarter of 1943 and the quarters immediately succeeding. This is evident since many of the plants now under construction for the production of synthetic rubber will not reach full operation until the latter part of the coming year. Our analysis shows that even with the optimistic estimates of the total quantities of new crude and synthetic rubber that will be available the amounts of this that we will be able to spare for the purpose of civilian passenger cars will be sufficient for a recapping and tire replacement program only provided that *strict conservation measures are instituted at once.*

The Committee is well aware of the fact that the American people are quite prepared to make any sacrifice that is needed for the winning of this war. No one will complain of hardships or discomfort when he thinks of the young men who are now preparing to give their lives freely on distant battlefronts throughout the world, but the Committee does not believe in the doctrine of sacrifice for sacrifice's sake. Neither do we believe that civilian workers should be expected to live in tents and walk several miles to work unless it can be demonstrated beyond the shadow of a doubt that the situation is so desperate that there is no alternative except that of inviting military defeat.

Consequently the Committee has explored carefully the amount of rubber which can be spared for the purpose of keeping the passenger cars of the country in operation. We realize full well that beyond some point we cannot limit the amount of transportation thus carried throughout the country without severe effects on our war program. Indeed we have been given estimates that point to the fact that unless approximately 50% of our normal annual car mileage can be maintained our normal productive effort would be seriously retarded. Necessary civilian needs are a part of the war effort. Ludendorff complained that the home front crumbled before the war front. We must provide for the bottleneck of lessened automobile transportation before it occurs.

If we could be absolutely certain that all the production of synthetic rubber planned for 1943 would come in on time and that no difficulties would be had in the initial stages of using this material, it might be safe to draw on the existing stocks for the rubber with which to manufacture tires for passenger cars. It is essential, however, that we have a margin of safety for our military effort, and no civilian in this country would ask the Government to jeopardize our war machine through lack of rubber in order that he might drive a few miles further in his car.

The average annual mileage of the passenger automobiles before the war has been estimated as approximately 9,000 miles. Today the figure usually quoted is 6,700 miles. It is clear that in the non-rationed areas the diminution in annual mileage is a result of voluntary restriction brought about largely by the fear that no further tires will be forthcoming for the owner of a private car. There is every reason to believe that as soon as a tire replacement and recapping program were announced without restrictions, drivers would feel that the danger had been passed and would increase both their speed and their mileage to almost prewar levels. If this were done the amount of rubber consumed by any recapping and tire replacement program would reach figures so large as to go beyond our expectations of supply in the critical year 1943—250,000-300,000 tons of Buna S, almost the entire production if the least optimistic estimate proves to be correct.

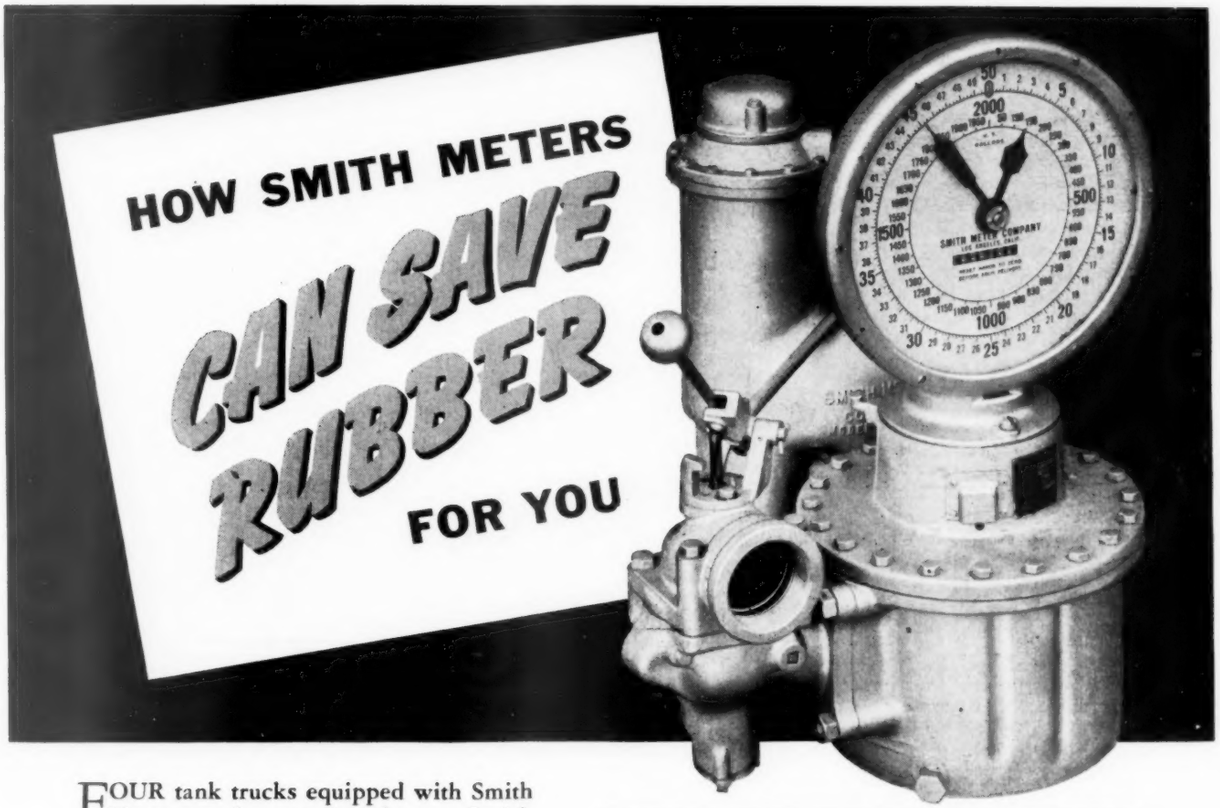
Strict enforcement of a speed limit of 35 miles per hour for private automobiles together with adequate tire inspection are extremely important factors in conserving rubber. The Committee recommends that these measures be instituted at once on a nation-wide scale. On this basis it would be possible to provide enough new tires and recap to maintain the program here recommended, if a maximum of 138,000 tons of reclaimed rubber were made available during the next 16 months for the purpose of keeping the passenger cars of the country in operation. (The small amount of crude rubber which is required in connection with the recapping program amounts to only a few thousand tons.) This amount of rubber, supplemented by synthetic materials as shown in Section 6, we believe will enable the Nation to maintain approximately the present number of passenger automobiles at an average annual mileage of 5,000 miles.

In order to insure that this mileage will in fact prevail the Committee recommends that nation-wide gasoline rationing be instituted at the earliest possible moment under policies to be determined by the Office of Defense Transportation and implemented by the Office of Price Administration. The Committee has examined various alternatives to gasoline rationing as a means of conserving rubber, but by no other procedure can we be certain that the annual mileage will be held to the figure we name. We must have some assurance so that those individuals who are ready to lead in the conservation of rubber will not be taken advantage of by the small percentage of the population who are not ready to follow.

It must be clear that this program would not give every citizen the right to drive 5,000 miles. This figure is an average which obviously means that the mileage for unnecessary driving must be cut very considerably below this figure, in order that essential driving requiring greater mileage may be maintained. The proper distribution of mileage to various drivers is a matter which would be worked out by the responsible governmental agencies.

It should also be stated that, in the Committee's judgment, even the above drastic curtailment of driving will be insufficient to meet the situation unless there is further increase in the practice of car pooling and sharing of rides. Extra tires of popular sizes now in the possession of persons who will not need them could be made available for essential uses under a suitable program of pooling through voluntary sale to the Government.

Every day of delay in putting the above pro-



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gram into effect will mean irretrievable, unnecessary loss of rubber by America and will build up, if long delayed, a day of disastrous reckoning. The nation is now driving on rubber borrowed from a happier past. Without recaps and replacements the majority of civilian cars would be forced off the road by irreplaceable tire failures.

If by the end of 1943, actual production is realized from the synthetic rubber plants under construction to the extent that is now scheduled, and if the synthetic rubber can be used as readily as it is believed, or if the military and export demand for rubber should actually prove to be substantially less than is now anticipated, it would be possible to draw further upon the stocks of rubber before 1944 for civilian passenger car use. In that case, the restrictions on driving could be lessened, provided that the Rubber Administrator feels sure that by 1944 at least 100,000 tons of Buna S will be available for tires for civilian driving. In order to make certain that this will be the case the Committee is recommending elsewhere such an expansion of the present synthetic program as to provide for this excess synthetic rubber. This, we believe, can be done without interfering with the war program. The drastic conservation measures recommended for the year 1943 may therefore be somewhat relaxed after another twelve months has passed, if the situation in regard to synthetic rubber is as rosy as we may hope.

At this point the Committee wishes to correct the erroneous impression which has been spread abroad to the effect that tires on cars standing in the garage will deteriorate almost as rapidly as if they were being driven. This idea is completely wrong. When standing under proper conditions in a garage the deterioration of the tires amounts to only a very few per cent, even in the course of an entire year. The conditions which must be observed are that the tires must not be allowed to stand uninflated, that they should not be allowed to stand on oil or grease, and that the car should be jacked up to relieve the pressure on the tires if the car is to stand for several months without use. High temperature and sunlight also have a deleterious effect. With any reasonable observance of these precautions, cars may be kept in storage with almost complete saving of the remaining mileage in the tires.

In the interim the Committee is confident that the American people, once they are acquainted with the true facts in regard to our rubber supply, will gladly accept whatever conservation measures are required.

To sum up our recommendations, in so far as passenger automobiles are concerned, are as follows:

1. Immediate institution of a tire replacement and recapping program through the allocation of reclaimed rubber for that purpose.

2. Nation-wide gasoline rationing to hold the average annual mileage to 5,000 miles under the general direction of the Office of Defense Transportation.

3. Prompt and strict enforcement of a nation-wide speed limit not exceeding 35 miles an hour for private passenger cars and trucks.

4. Compulsory periodic tire inspection.

5. A voluntary interim tire conservation program until gasoline rationing can be instituted.

In order to provide for the recapping program which we have previously outlined it will be necessary to expand immediately the facilities for the production of thiokol. At present the country has plants for the production of 24,000 tons per year from private sources; this should be enlarged by Government sponsored plants to produce 36,000 tons by conversion of present existing idle plant capacity, giving a final total of 60,000 tons per year. Thiokol is most rapidly produced of all of the synthetic materials which are suitable for the retreading of civilian tires. The amount indicated will be needed to help carry civilian passenger tires through the years 1943 and 1944. If prompt action is taken the additional thiokol should be in production by January 1943.

Adequate tire inspection is one important element in the conservation program. In general, where industry can be organized to function, great care should be taken not to build a duplicate governmental organization. This has special reference to periodical examination of civilian tires. It would seem very much easier to license recognized tire dealers and repair men who have experienced help and who are fully equipped for the purpose of examining tires and advising as to their maintenance. Such an organization could be created almost over-night. Rationing boards would then be governed by the reports presented to them by those requiring tire recapping or repairs from the information furnished by these examiners. The Committee suggests that these examinations governed by a mileage total instead of elapsed time.

The Synthetic Program

The present plans for the production of synthetic rubber as outlined to us by the governmental agencies concerned call for the erection of the following types of plants in the United States:

(a) for the production of Neoprene, eventual capacity 40,000 tons per year (in addition to a 9,000 ton plant now in operation by a private company);

(b) for the production of Butyl rubber to yield 132,000 tons per year;

(c) for an over-all production of 705,000 tons of Buna S. This production of Buna S involves construction in terms of plants for producing styrene and butadiene and for the co-polymerization of butadiene and styrene with the formation of Buna S.

For the manufacture of butadiene the following processes are scheduled: (all figures expressed in the long-ton equivalent of Buna S)

(1) from alcohol by the Carbide and Carbon Chemical process, rated capacity 242,000 tons

(2) from butane (in natural gas) by a process developed by the Phillips Petroleum Company 50,000 tons

(3) from butane by the Houdry process 16,500 tons

(4) from butylene (obtained by the cracking of petroleum) by a process developed by Standard Oil of New Jersey 283,000 tons

(5) by the cracking at high temperatures of gas and heavy oils (the so-called thermal or refinery conversion processes) 20,000 tons

(6) by combination of (4) and (5) in one locality 93,500 tons

The Committee has examined the present status of the Government's schedules and estimates that *if the construction program can be met on the dates specified* there will be produced during 1943: 400,000 tons of Buna S; 30,000 tons of neoprene (in part from private sources). We believe that these processes will ultimately work on a large scale and yield satisfactory products.

Furthermore, our experts estimate that the time required to get the various plants running smoothly under actual operating conditions will not be so lengthy as to cause serious delay. On the other hand it must be remembered that we are dealing here with a new industry and that in the production of Buna S three separate manufacturing operations are concerned, no one of which has been carried out as yet on anything approaching the present contemplated scale.

Therefore, until more experience has been gained by the operation of one of the large-scale units at each step, we must consider that a considerable element of risk is present in the picture. The importance of completing rapidly one full-scale plant using each process and the erection of pilot plants is considered in the technical section of this report.

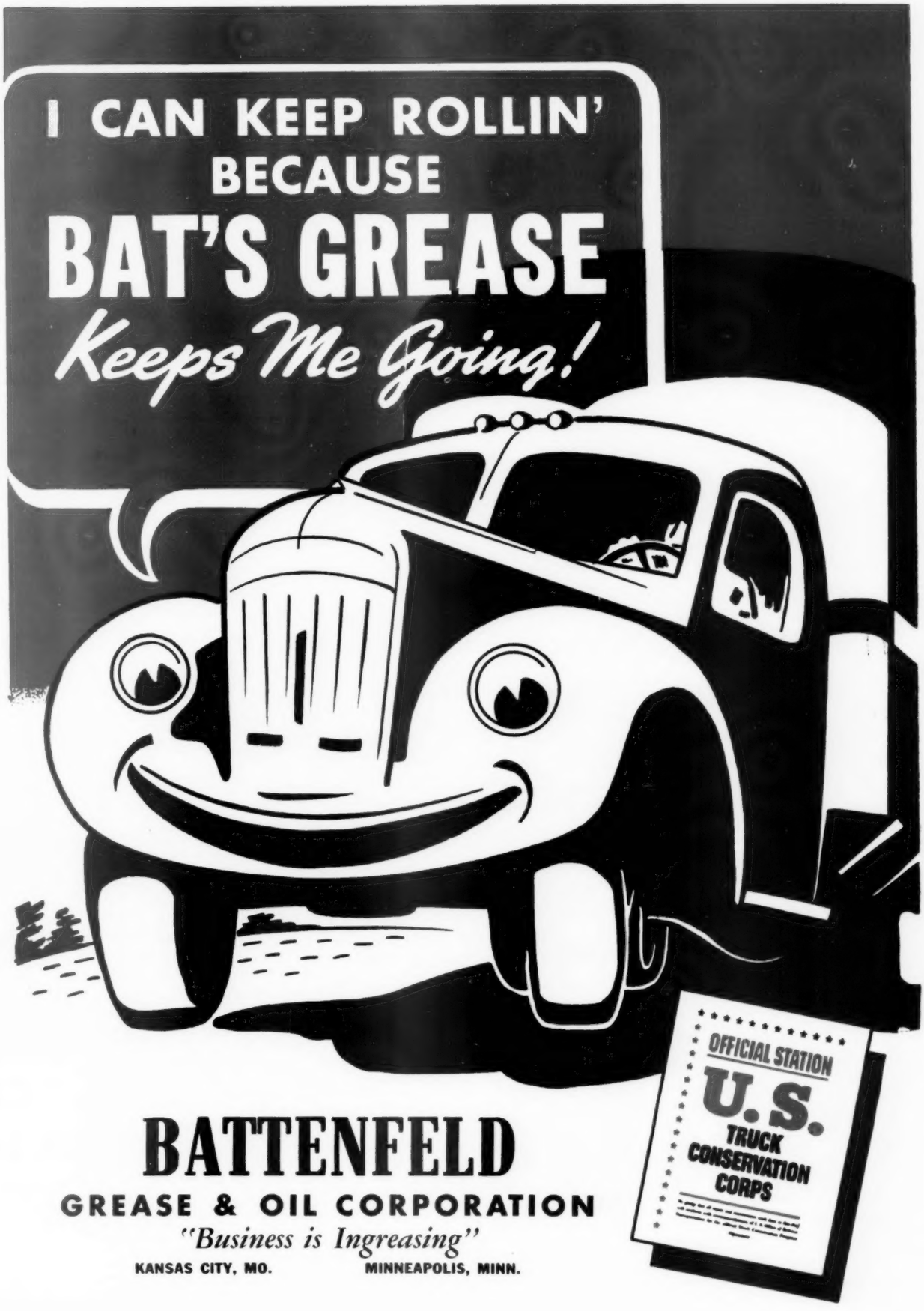
The Committee wishes to emphasize once again at this point that the whole question of obtaining synthetic rubbers in adequate amounts in 1943 hinges on the rate of construction of the manufacturing plants. Unless the present situation involving the assigning of priorities and allocating of materials is improved, there is grave danger that there will be serious delays in the completion of the plants and consequent reduction in the amount of synthetic materials produced. Furthermore, unless the administrative changes recommended in a later section of this report are put into effect, conflicting governmental plans with respect to the oil industry may seriously jeopardize the production of butadiene.

We have also examined with the aid of our experts many other processes for the production of butadiene and synthetic rubber. We find that quite apart from their merits or demerits, no one of them could now be substituted in the present program with hope of accelerating the production of Buna S in the critical year 1943.

We would be blind if we did not see the efforts now in progress on the part of many companies to have a part in the development of a large new industry with vast postwar possibilities. This has been accentuated in the minds of the petroleum producers by gasoline rationing with its attendant loss of sales. They are thus forced to turn to other products including butadiene. Furthermore, we are not unaware that it is inevitable that once the war is over there will be a struggle amongst various groups for the control of this new industry.

But all such considerations cannot affect this Committee as to its conclusions. We are concerned only with the production of the largest amount of rubber in the minimum amount of time in order to carry the country successfully through the war. It is our firm conclusion that present processes for manufacturing synthetic rubber and the raw materials required (butadiene and styrene) must not at this late date be changed unless new processes can be shown beyond peradventure to have such advantages over those now employed that more rubber would be obtained in the ensuing months than would otherwise be the case. We have found no such process in the course of our investigations.

The Committee finds that there has been considerable discussion between two groups within the oil industry as to whether or not there was a serious conflict between the butadiene program based on butylene and the high octane aviation gasoline program. With the aid of our experts we have examined carefully into this problem and consulted many technologists in various oil companies as well



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as discussing the matter with the officials of the Office of Petroleum Coordinator. It is our conclusion that, while the possibility of a conflict between the two programs does exist, it need not become serious if the possibility is recognized and if the administration of these two closely related enterprises is properly integrated.

The necessity for the administrative changes along these lines which are recommended elsewhere in this report is further demonstrated by the uncertainty of the stated aviation requirements both in quantity and quality. The evidence clearly indicates that if the present demands for high octane aviation gasoline and butadiene stay where they now are, there need be no conflict.

If and when the armed services should decide that such larger quantities of high octane aviation gasoline are needed, there are ways by which this demand can be met by the industry without diminishing the flow of butylene to the butadiene plants.

It is fortunate that the program for the needed plants is generally in the hands of as competent engineers as there are in the country. Probably the most interesting and satisfying part of our study is the confidence we have acquired in the men from industry who have the plans in hand and who are satisfied they can lick the problem in the given time. Their competence and experience, their resourcefulness and ingenuity are the best guarantees we have that they can do so.

We have been much impressed with the fact that this stupendous undertaking is only possible because of the highly developed skill of our technologists. No one could have examined the facts before us without appreciating the magnitude and scope of the task; no one could have made this study without realizing that because of the shortsightedness and failure to act on technically sound advice we must now proceed with insufficient experience.

On this basis we venture the statement that never on the basis of so little has so much been involved. Under these uncertainties the only recourse is to provide ample margins when in doubt.

The Problem of 1943

The year 1943 is so critical for the rubber situation that the production of 100,000 tons more or less of Buna S might be a determining factor in the success of our military program. In view of the extremely precarious situation in 1943 the Committee recommends the prompt increase of 100,000 tons a year of butadiene over the present schedule, to be obtained by a refinery conversion program. This can be accomplished with a very small expenditure of critical materials. This recommendation is designed to accomplish three ends:

(1) fill the gap between butadiene production and polymerization capacity in the early part of 1943 (for the minimum polymerization capacity exceeds that for butadiene production and according to present schedule the two will not come together until the middle of 1943);

(2) provide a reserve of stand-by capacity for the later years of the program;

(3) furnish valuable insurance against contingencies affecting other plants in the program and provide additional facilities to meet possible increased demands of the armed services.

Due to the pressure from various sources there have been, even in very recent days, belated efforts to change from the present butadiene plants scheduled by the Government to the refinery conversion processes. The first thought that occurs to the Committee is, "Why now? Why not months ago? Why the sudden activity? And, above all, why substitute at this late date?" We have recommended an *increase, not a substitution*, of a refinery conversion program. We have made this recommendation, in order to produce more rubber during the critical year 1943. We should like to emphasize again that it would be a major blunder to make a further change inside the program at this date by the substitution of one process for another.

To obtain the maximum utilization of the combined refinery conversion program, we recommend a prompt increase in the rate of construction of polymerization facilities and of the styrene plants to balance the program upwards so that the maximum possible amount of Buna S might be produced in 1943. If this expectation and the optimistic estimates of the present schedule are realized, the Buna S produced in 1943 might be as much as 450,000 tons. Even this amount will not provide too large a margin of safety when it is recalled that our "carryover" to 1944, assuming only a 400,000 ton Buna S production, does not exceed 100,000 tons.

Looking Ahead to 1944

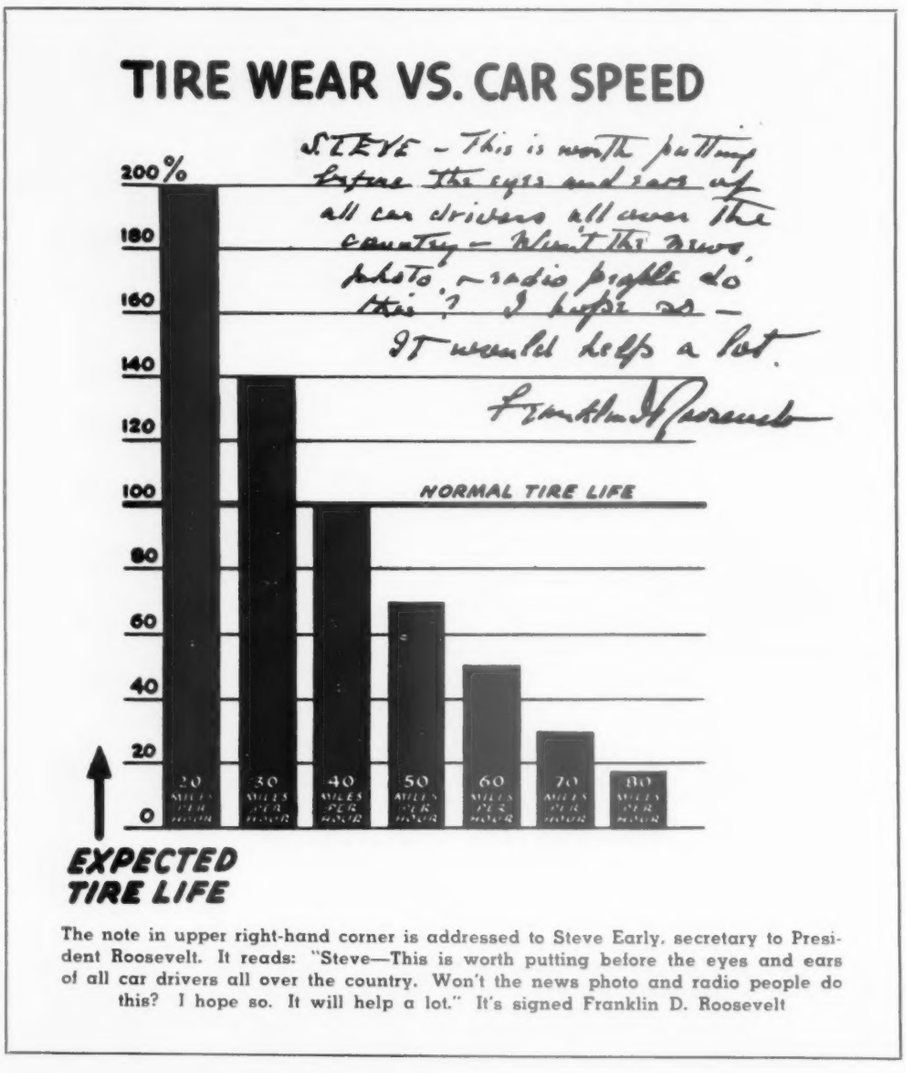
The present plans call for the building of polymerization plants with a rated annual output of 705,000 tons of Buna S. If the 100,000 short tons of butadiene (equivalent to 110,000 tons of Buna S) provided by the refinery conversion program are to be utilized when the program is complete, additional facilities for polymerization must be provided and likewise for the manufacture of styrene. While there is evidence that the butadiene plants may produce 15% to 20% above their rated capacity our experts have found no indication that a similar situation exists with respect to the polymerization plants.

The WPB has fixed the total annual output of Buna S at 705,000 tons. The Committee recommends that this figure be raised now by 140,000 tons, and that this be accomplished by authorizing

(a) the construction of the additional polymerization facilities and styrene capacity, to be ready by January 1, 1944, which are required to balance upwards the annual production of the refinery conversion program (110,000 tons of Buna S); and

(b) the later construction of a 27,000 ton butadiene plant and a 30,000 ton polymerization plant to be located near the center of grain production.

The Committee recommends that the Rubber Administrator, about six months hence in the light of the situation which exists regarding the best technical process then proven for the production of butadiene from grain, and in the light of the need for additional Buna S which may then be estimated, proceed with


TIRE WEAR VS. CAR SPEED
STEVE – This is worth putting before the eyes and ears of all car drivers all over the country – Won't the news, photo – radio people do this? I hope so – It would help a lot.
Franklin D. Roosevelt
200%
180
160
140
120
100
80
60
40
20
0
NORMAL TIRE LIFE
20 MILES PER HOUR
30 MILES PER HOUR
40 MILES PER HOUR
50 MILES PER HOUR
60 MILES PER HOUR
70 MILES PER HOUR
80 MILES PER HOUR
EXPECTED TIRE LIFE

The note in upper right-hand corner is addressed to Steve Early, secretary to President Roosevelt. It reads: "Steve—This is worth putting before the eyes and ears of all car drivers all over the country. Won't the news photo and radio people do this? I hope so. It will help a lot." It's signed Franklin D. Roosevelt

(All weighed-in on the platform scale, another Mack-load of coal gets the go-ahead and rolls away. Sketched from life, near Scranton, by Peter Helck.)

Well-known American, at work!

THE SAYING "Built like a Mack Truck" is something more than a slang phrase. It is an acute observation on the difference between a Mack . . . and just a truck! It worked into the language because of the way a Mack works into a job. The first Mack, built in 1900, served 17 years. No one knows . . . *yet* . . . what records today's Macks will make. But you can put it down as sure that the first Mack, today's Mack, tomorrow's Mack . . . all set out to be the *best* trucks in the world when made!

Mack Trucks, Inc., New York, N. Y. Factories at Allentown, Pa.; New Brunswick, N. J.; Plainfield, N. J.; Factory branches and dealers in all principal cities for service and parts.

Mack

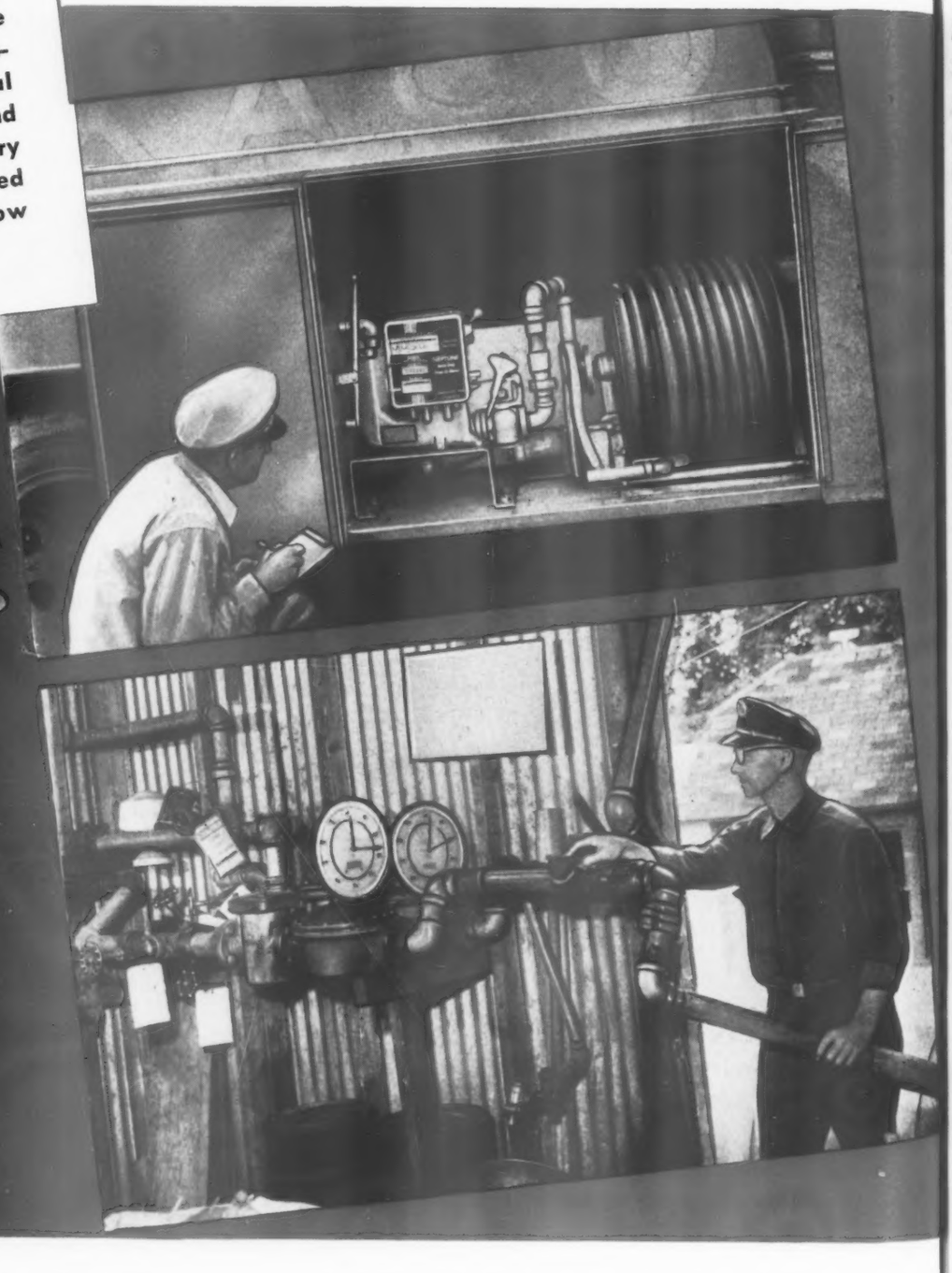
TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS
BUY U. S. WAR BONDS

IF YOU'VE GOT A MACK, YOU'RE LUCKY . . . IF YOU PLAN TO GET ONE, YOU'RE WISE!

METERED CONTROL is being used to spot hidden losses

How marketers

and to help lift many a marketer out of the red. • With sales volumes limited and profit margins narrowed, guesswork and stock leaks become suicidal. • The effective use of present metering equipment is providing a perpetual audit on stock input, outgo and inventory. It is checking every phase of throughput. Metered control lets the marketer know instantly where he stands!



Canniff Oil Company, Beaver Dam, Wisconsin, reports that its two bulk plant meters (installed seven years) and tank truck Print-O-Meter (in service over a year) have cut shrinkage "better than 50%." These Red Seal meters have been handling on an average of 100,000 gallons of gasoline, kerosene and fuel oil per month. No repair or maintenance cost has been incurred.

NEPTUNE RED SEAL M

GASOLINE DISPENSING PUMPS • METERS FOR: BARGE AND TANK CAR UNLOADINGS • STORAGE TRANSFERS LOAD

can help lift themselves *by their own Bootstraps*

Rigid Stock Control. The Red Seal Meter Master System and Stock Record Control Plan provides an engineering plan for the most efficient metering set-up, combined with a simplified accounting procedure. Its purpose is to guard gallonage, eliminate all preventable stock losses, and put the entire throughput continuously under rigid stock control and audit. Metered deliveries and sales control are an adjunct to the system.

Many oil companies have applied this system, in whole or part. It has enabled them to conduct their business on a more efficient basis... has cut down losses... increased their profits. The results have been recorded in numerous case histories of impressive savings and business successes.

Delivery Control can be one of your biggest helps in these days when conservation is so important. Through Metered Control, operational savings alone may convert potential loss into assured profit.

Check over your available metering equipment... and discuss with your nearest Neptune representative how you can get the most out of your meters; how far you can go toward setting up a complete metered control of stock receivals, storage, withdrawals and sales. Little, if any, expense is involved. Your time will be invested to good purpose.

Your Customers' Good Will. Here is a problem which—with continuing difficulties in fuel supply and demand—well may cause concern. With this in mind, we have prepared a 1942 Supplement to the Red Seal Fuel Oil Merchandising Plan, which enables you to offer concrete suggestions to your customers on how to make best use of their rationed oil. Ask your nearest Neptune office for a copy.

A war-time good-will builder for
FUEL OIL DEALERS
Supplement to the Red Seal Merchandising Plan
Neptune Meter Company
To Householders
TO SAVE FUEL OIL
TO A BETTER HEATING JOB!
YOUR NAME AND ADDRESS

A GOOD-WILL CAMPAIGN with helpful exhibits, including this "Oil-Savings" folder which profitably can be mailed to your customers.

1942 SUPPLEMENT TO THE RED SEAL FUEL OIL MERCHANDISING PLAN

METERS

RED SEAL NEPTUNE METER CO.

LOADING RACKS • DELIVERY TANK TRUCKS

1906

NEPTUNE METER COMPANY
Main office: 50 West 50th Street, New York. Branch offices at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Philadelphia, Portland (Ore.), San Francisco, and Long Branch (near Toronto), Ont.

Building a New Industry

Following paragraph is from the Baruch Committee report:

The nation as a whole is endeavoring to provide for the development of essentially novel manufacturing operations on a vast scale. How this program is managed and the spirit in which it is carried forward seem to us of great significance. Unlike the production of ammunition, the enterprise has implications for the postwar period. For a double reason, therefore, the nation is concerned lest special groups play too large a part in the construction and operation. For the rapid development of the new art this committee is fearful lest the influence of governmental policy serve to discourage the beneficial rivalries of the best brains in industry.

We believe, therefore, that on the one hand there should be complete interchange of information and, on the other, as much competition in research, development and operation as possible. Such, after all, are the conditions applying in the field of laboratory science where during the last hundred years tremendous strides have been made. Competition and cooperation in this new national effort, we believe, should go hand in hand.

the erection of the 27,000 ton butadiene plant from grain and the associated polymerization plant. He should also make whatever arrangements are necessary to produce and ship the necessary styrene from the centers of styrene production. If the needs for synthetic rubber and the production program are in balance, making due allowances for civilian driving, he may then cancel the erection of this additional 30,000 tons of Buna S capacity.

The Secretary of Agriculture has assured the Committee that no concern need be felt that the expansion of the butadiene from grain program will interfere with our food supplies. After all food requirements that can be anticipated have been met there will be upwards of 1,250,000,000 bushels of wheat left in this country.

This additional Buna S, which it will be thus possible to produce in 1944, should provide the margin required for relaxing the restrictions on civilian driving. As we have pointed out earlier in this report, if by the end of 1943 the synthetic rubber manufacture is in satisfactory shape and the military needs for rubber have not increased, it should be possible to allocate considerable quantities of Buna S for civilian needs.

We shall not need the 140,000 extra tons of Buna S until 1944, when it will be required for tires for passenger cars. Without at least half this amount in that year, a great many passenger cars would be forced off the road; for it is at that time that we shall have to begin to repay the rubber which we have been borrowing, so to speak, by running our cars without a tire replacement and recapping program during the past eight months.

By delaying the construction of the extra polymerization facilities for six months we shall in all probability prevent a serious conflict between this eventual expansion of the Buna S program and other aspects of the war program. There is every reason to believe that the shortage of critical materials will be less acute six to eight months from now, and this will certainly be true in regard to facilities for fabricating special chemical equipment.

Our recommendation for additional 27,000 tons of butadiene capacity to be located near the center of grain production is made with this time schedule in mind. This plant (together with the corresponding 30,000 ton Buna S plant) need not be started for another six months. There will be relatively little cost to the war effort involved in its construction for the reasons just given in regard to the easing of the situation in respect to the fabrication of equipment.

Furthermore, another advantage will accrue. At that time—six months hence—it will be possible to judge the relative merits of two processes for the manufacture of butadiene from grain which are not now in the Government program, namely, the Publicker process using alcohol and that employing butylene glycol developed by the Department of Agriculture in Peoria. This latter method involves a special fermentation of grain.

These two processes should be carefully compared with the alcohol process developed by the Carbide and Carbon Company and now a major part of the Government's plans. At present insufficient data are at hand for an evaluation. A few months from now this will no longer be the case.

It is clear to the Committee that new facilities for producing alcohol from grain must be provided. More alcohol may be required for the production of butadiene in plants under construction, if not, the extra capacity will be useful in the explosives program. The estimates we have obtained from the most reliable sources vary, but in all likelihood a considerable quantity of additional alcohol must be on hand in 1943 and 1944 to meet both the synthetic rubber and the explosives program. We recommend that these facilities be erected on a site near the grain producing states and located on water transportation. By the use of recently developed apparatus, alcohol plants can be constructed with little expenditure of critical materials.

If the Rubber Administrator should decide that the plants for the production of the additional 30,000 tons of Buna S which we recommend should be constructed during late 1943, they should be located near the center of grain production and such units should if possible be operated under the control of an independent local group. Diversification of the synthetic rubber industry both from the point of view of geography and control seems important to the Committee. Another element in the competition would be provided if this recommendation is carried out.

We may sum up our recommendations in respect to the Buna S program as follows:

(1) There should be no further changes in the plans now laid for the construction of the scheduled plants—the time to freeze has passed in view of the urgency of 1943.

(2) The authorization of an additional 140,000 tons of Buna S capacity per year.

(3) Proceed immediately with a conversion of refinery plants to produce a total of 100,000 tons of butadiene by this process, this being in addition to the butadiene now planned from other processes in the present program.

(4) Promptly make an adjustment in the construction rates of the present styrene and polymerization plants, in order that the maximum amount of Buna S may be produced in 1943.

(5) Expand the polymerization and styrene facilities to be ready on January 1, 1944, to balance upwards the entire program.

(6) About six months hence, in the light of the situation which then exists regarding the best technical processes then proven for the production of butadiene from grain, and in the light of the need for additional Buna S rubber which may then be estimated, proceed as indicated with the erection of a plant to produce an additional 27,000 tons of butadiene from grain through alcohol or butylene glycol and with the erection of an associated additional polymerization plant to produce 30,000 tons of Buna S, both to be located near the center of grain production. Also make whatever arrangements are necessary to produce and ship the necessary styrene from the centers of styrene production.

(7) Proceed promptly with the erection of an alcohol plant to produce 100,000,000 gallons of alcohol per year, by the use of recently developed apparatus. This plant could be erected on a site near the grain producing states and located on water transportation.

Finally, as a further margin of safety, considered only from the point of view of filling military needs, we recommend the construction of an additional plant for the production of Neoprene to the extent of 20,000 tons a year capacity. We make this recommendation because Neoprene is the one synthetic material of a quality to be the full equivalent of natural rubber for combat and heavy duty tires, either by itself or in combination with Buna S.

The relatively high cost of this substance in terms of critical materials required for the construction of the plant and electric power needs is offset by its special significance in the rubber program. As an insurance against the distant possibility that we may be cut off from all supplies of natural rubber, we feel that the expenditure involved to provide an additional margin of safety is not too great.

Four large rubber companies already have developed their own polymerization facilities, each one differing somewhat from the others. Each represents the best efforts of a separate group of keen technical men. Last May, Rubber Reserve decided to standardize all the new polymerization plants which were to be constructed; this means, in essence, also standardizing the operation.

The design that is now ready is a compromise of the ideas of four separate technical groups. It may or may not incorporate the best ideas of each; on this point grave doubts have been expressed to the Committee. At all events, no one has ever operated such a standardized plant. The need for the immediate construction of one such standard plant so

that experience with its operation can be obtained at the earliest moment is evident. It is our recommendation, therefore, that one of the standard plants now on the schedule be rushed to completion as quickly as possible.

The recognition of the importance of technological competition leads us to make two recommendations in regard to the operation of the polymerization plants:

First, one or more corporations controlled by the smaller rubber companies and chemical companies interested in polymerization should operate a certain number of these standard plants.

Second, at the same time, to keep the competitive urge to improve the new art of polymerization, we recommend that as part of the program each of the four large rubber companies be allowed to expand their facilities according to *their own design*, if they so prefer. We feel sure that the pride of authorship, as strong among technical men as among artists, under these conditions will yield in a short time a rich harvest to the Nation. Adoption of this second recommendation would not retard the program, for the expansion should be provided in that portion of the program we have recommended which requires additional polymerization facilities to be ready about January 1, 1944, to balance the refinery conversion program.

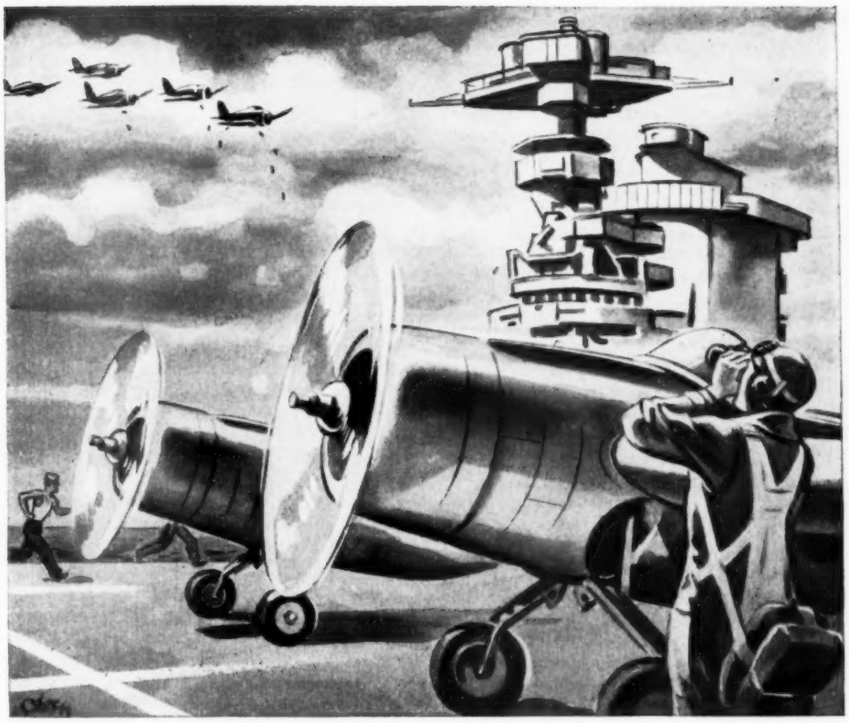
The Nation as a whole is endeavoring to provide for the development of essentially novel manufacturing operations on a vast scale. How this program is managed and the spirit in which it is carried forward seem to us of great significance. Unlike the production of ammunition, the enterprise has implications for the postwar period. For a double reason, therefore, the Nation is concerned lest special groups play too large a part in the construction and operation. For the rapid development of the new art this Committee is fearful lest the influence of governmental policy serve to discourage the beneficial rivalries of the best brains in industry.

We believe, therefore, that on the one hand there should be complete interchange of information and, on the other, as much competition in research, development and operation as possible. Such, after all, are the conditions applying in the field of laboratory science where during the last hundred years tremendous strides have been made. Competition and cooperation in this new national effort, we believe, should go hand in hand.

In concluding this section of the report which deals with the synthetic program, the Committee wishes to make special mention of the fact that there are a number of materials in the offing which give promise of considerable significance in the future development of rubber substitutes.

In particular, flexon, which is very similar to Butyl rubber, is now undergoing careful tests to determine its utility in the manufacture of tires and as a recapping material. Flexon has an advantage over Butyl rubber, in that it can be made more quickly and the plant involved does not require any large amount of critical materials.

The production would be limited, however, by the amount of solid carbon dioxide (dry ice) that would be available. The process is a wasteful one from the point of view of isobutylene, a raw material which is also of great value to the aviation gasoline program. As the tests of flexon stand today, the Committee does not feel that it can recommend the inclusion



It could have happened here —BUT IT DIDN'T!

Thanks to Cities Service Research

Enemy planes coming over . . . and thirty minutes to wait while your plane warms up! Thirty minutes! And your plane pinned to the deck like a giant eagle . . . helpless before the vultures closing in . . .

* * *

There was a time — and it was not so long ago — when this could have happened. For it actually took thirty minutes of warming up before a carrier plane could take off . . . *thirty minutes of time lost and ten gallons of gasolene wasted.*

Then, out of ceaseless research, came the Cities Service Immersion Heater— a compact instrument that keeps oil at uniform temperature.

Today, equipped with these Heaters, our planes can take off almost instantly. And they *are* taking off — carrying the fight to the enemy on all the far-flung battlegrounds of the world!

Chalk up another smash hit for Cities Service! The same research that developed Cisco Solvent and Trojan Lubricants has scored again—this time for Uncle Sam.

In war, as in peace, the ideal of Cities Service remains the same. *Service to the Nation!*

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CITIES SERVICE OIL COMPANIES

NEW YORK — CHICAGO — SHREVEPORT

OIL IS AMMUNITION—USE IT WISELY!

of any large production in the present program.

However, in the course of a relatively short time the art of manufacture may be improved and one of the chief present drawbacks, namely, the lack of uniformity in different samples, may be overcome. If later tests prove the usefulness of this substance, its production then could be undertaken in considerable quantities.

Another rubber substitute which we are not recommending in our program but which is nevertheless in an interesting state of development is the material known as "noropol," prepared by a series of chemical reaction from soya bean oil. The process of manufacture seems entirely feasible, but the tests have not yet gone far enough to demonstrate the worth of the material in the manufacture of tires or recaps. It will undoubtedly have value as a substitute for rubber in certain mechanical goods.

Several other developments of a similar nature have been called to the Committee's attention, but all are as yet in the laboratory stage. The Committee hopes that experimentation will continue and facilities be provided so that these new substances which show real promise may be tested thoroughly and eventually find their proper place in the national economy. Necessity requires the country to stop tampering with the present synthetic rubber program in order to produce the maximum amount of usable material in the coming year. It would nevertheless be most unfortunate if this situation should prevent the development of other materials or new methods of manufacture.

Priorities

The Committee wishes to emphasize and reemphasize the absolute necessity of having the maximum amount of synthetic rubber produced in the year 1943. As we have said before, this turns largely on the rate of completion of the plants now scheduled. No one of these plants of any considerable capacity has been completed as yet. Many of them are not yet even started.

We have found that although there is every reason to believe the construction schedule can be met so far as the time of fabrication and construction is concerned, there is grave doubt whether the plants will actually be erected as planned unless something is done at once to change the situation in regard to the flow of materials to the fabricators.

We therefore recommend that urgent attention be paid to this phase of the rubber problem. We already have pointed out the dangerous situation the country would face if even four months of delay in the program should occur. Indeed, it is clear that the whole problem of critical materials is intimately associated with the problem of producing sufficient synthetic rubber in 1943 to tide us through the crucial year, and the President has asked us to make a report on critical materials.

Much has been said of shortages in critical materials. There are two kinds of shortages: the first where there is not enough to go around for essential purposes; the second type of shortage is that where though sufficient exists, it is short in the sense of not being available when and where it is urgently needed. There are a few materials short in the first sense, but many have been short in the sense of failing to be where needed when needed.

This has been due to permitting materials to be usd for purposes not essential to the conduct of the war; to the lack of a vigorous policy of conservation, inventory control and the finding of substitutes; and most of all, to the changing, complicated and ineffective efforts at material distribution and priority control.

Shortages have been accentuated by superimposing upon the heavy military demands and delayed conversion of civilian industry to war purposes, a vast war construction program approximating seventeen billion dollars. This program will be nearing completion by the end of this year and will thus release large amounts of construction materials. It is estimated that 70 to 80% will be finished about January 1, 1943 and all about July 1, 1943.

After this, provided vigorous measures are taken to increase supplies, find substitutes, press research work, complete the process of conversion, effect the utmost in conservation, inventory control, standardization and simplification and above all to perfect a simple, sound and workable system of priorities for the distribution of materials, unless demands are greatly increased, shortages should be much reduced and the bottlenecks in critical materials become fewer.

There has been often an attitude of complacency and a failure to take the vigorous measures necessary to increase supplies, working closely with the industries concerned. There has been some disposition to accept the "impossible" instead of trying to overcome it.

The military men must decide what things come first in war production, but it is the duty of this Committee to point out that unless the flow of materials for the construction of these synthetic rubber plants is insured there will be no rubber in the fourth quarter of 1943 with which to equip a modern mechanized army.

Administration

The Committee finds that a number of different Government Agencies have had overlapping jurisdiction in regard to the synthetic rubber program. This has caused delay and confusion. In particular the conflict between Rubber Reserve and OPC has complicated in recent months the bringing in of new facilities for the production of butadiene from oil. The Committee has been unable to determine, in spite of many inquiries, as to where the responsibility has lain for many of the decisions which have been made in the last eight months.

The failure of the Government to provide a clearly recognized group of independent experts who would make technical decisions has added greatly to the public confusion and uncertainty. The reliance on one part-time technical adviser, aided by committees drawn from industry has, in the opinion of the Committee, been insufficient for the development of an entirely new industry involving an investment exceeding $600,000,000. The technical adviser has testified that on more than one occasion he requested the appointment of an adequate technical staff.

It would have been wise administration for the officials in charge of policy to have delegated to a competent technical staff the function of collecting information about the various processes. Such a staff should have been relied upon for supplying through regular channels the data on which all important decisions were made.

Instead of such orderly methods of procedure we have found many evidences of a chaotic situation in which nontechnical men have made decisions without consultation with subordinates nominally in positions of responsibility.

There have been many adjustments and readjustments—a "stop and go" policy— in the synthetic rubber program. Some of these were inevitable; some appear to be the result of bad administration.

There is clear evidence that the situation with respect to the alcohol supply was altered between the fall of 1941 and the spring of 1942. What had once been a deficiency became an apparent surplus. As a result of this change the proportion of alcohol and petroleum-based processes in the synthetic rubber program was altered. A more adequately staffed organization might have foreseen earlier the changed situation and altered the program a few months earlier.

As another example of faulty administration we may mention the failure to obtain early in this year the detailed information concerning the Russian process for making synthetic rubber. Russia has been manufacturing synthetic rubber successfully for more than ten years. It would seem natural to have endeavored to benefit from this experience as soon as rubber became of major concern to the United States.

If the Russian offer made in February to exchange men and information had been accepted and Russian engineers with blueprints of manufacturing had been rushed to this country last winter, it is conceivable that plants for producing synthetic rubber by the Russian process might well be now on the way to completion. To date we have no detailed information as to the process and no samples of Russian tires have as yet been obtained. Every effort ought to be made to obtain this information.

The dissemination of full information concerning the compounding of Buna S to all companies has become an accomplished fact only in the last few days. An agreement was entered into on July 3 of this year between the Rubber Reserve Company and the four large rubber companies. According to this agreement, Rubber Reserve alone was permitted to give out information to the other rubber companies. But in fact it did not do so for some six weeks in spite of repeated efforts of the Rubber Branch of WPB to have the information released. In view of this situation one hardly needs to point out that there has been very imperfect cooperation between the Rubber Reserve Company and the Rubber Branch of WPB.

Because of the record briefly summarized above, we recommend:

A complete reorganization and consolidation of the governmental agencies concerned with the rubber program.

The War Production Board must assume full responsibility for the rubber program in all of its phases. We therefore recommend a directive from the President ordering the Rubber Reserve Company and all other Government Agencies to act in all matters relative to the rubber program as directed by the Chairman of WPB.

To discharge adequately the responsibilities which we recommend that the Chairman of WPB explicitly assume for the entire Rubber Program, full authority must be centered in a single official.

We therefore recommend that the Chairman of WPB appoint a Rubber Administrator

They Swing Freely

FIG. 602
GALVANIZED
MALLEABLE IRON
SWING JOINT
(SINGLE)

The carefree swinging of boyhood days, the rhythmic driving of a champion golfer, the smooth flowing base hits of a big leaguer . . . ALL these are combined in the free swinging action of Buckeye Swing Joints. This action is assured by equal pressure on the packing at all times.

Buckeye Iron Swing Joints are made of malleable iron, giving greater tensile strength with less weight. The spring-loaded bolts give an equal distribution of pressure, enabling the gland to be pulled down tight but permitting the nipple to swing freely. The bodies are galvanized and the flat steel springs are udylited to prevent rusting. The Iron Swing Joint is made both single (Fig. 602) and double (Fig. 603) in sizes: 1¼", 1½", 2", 2½" and 3".

FIG. 603
GALVANIZED MALLEABLE
IRON SWING JOINT
(DOUBLE)

Conservation of *all* service station and bulk plant equipment is needed these days because, "for the duration" it will be hard to get. How long this emergency will last no one knows. But the built-in quality of all Buckeye products *is* known by users everywhere.

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The COMPLETE Buckeye Line of Valves and Fittings for service stations and bulk plants is known and used all over the country. It is fully described in our Catalog No. 11. Write for your free copy TODAY.

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and delegate to him full and complete authority in regard to the manufacture of synthetic rubber, including research, development, construction and operation of plants. This single official, who must be a man of unusual capacity and power, must also have full charge of all matters connected with rubber within the WPB.

It should be his duty to formulate policies and administer the operation of the rubber program subject only to the Chairman of WPB, who should divest himself of all direct concern with these matters. Good administration dictates that the Rubber Administrator use the available facilities of other Government Agencies in the execution of the program, but his decisions and not theirs must control.

We recommend that particular care be directed to the establishment of a Technical Division, under the immediate control of the Rubber Administrator. We also recommend that the Construction Division of Rubber Reserve be designated by the Rubber Administrator as the agency to supervise the construction of all plants under the rubber program.

It will be a matter of great importance to have the Technical Division adequately staffed and provided with branches in charge of all the various phases of research and development, except for the production of butadiene from petroleum which is referred to in the next recommendation.

The Rubber Administrator, acting on authority delegated by the Chairman of WPB, should have the sole responsibility for supervision of operation of all Government plants engaged in the production of rubber. In the execution of that responsibility he may utilize other agencies of the Government upon their agreement thereto, but shall not be required to do so, and he shall cancel such arrangements when satisfactory results are not obtained.

Funds must be made available at once to WPB to provide for the staff under the Rubber Administrator and to enable him to place such contracts as he may deem necessary in connection with research and development.

We further recommend that the Petroleum Coordinator be directed by Presidential Order to act on specific directives from the Chairman of WPB, acting through the Rubber Administrator, to explore all methods for the production of butadiene from petroleum and natural gas products and recommend new proposals to the Rubber Administrator for his consideration and action.

The construction of all plants and equipment concerned with the production and purification of butadiene from petroleum should be under the authority of the Rubber Administrator, who we recommend shall designate the Construction Division of Rubber Reserve to carry out this function.

This provision is necessary in order to unify control of the construction program and make certain that no delays ensue by reason of conflicting authority and personalities. The Petroleum Coordinator should have supervision of the operation of the plants for the manufacture of butadiene from petroleum and natural gas products after completion of construction, but he should be directed not to modify the presently authorized construction program or the plans for operation except as approved by the Rubber Administrator.

We further recommend that in the Office of Petroleum Coordinator there be created a new Technical Division responsible for research and development in connection with all problems of the manufacture of butadiene from petroleum; funds for this purpose should be provided to OPC.

This specific delegation of responsibility to the Petroleum Coordinator is made in order to secure complete coordination of the butadiene program with other petroleum and natural gas requirements, especially for aviation gasoline and for toluene for explosives.

As the situation develops it may be desirable for the funds required for the entire rubber program to be put directly at the disposal of the Chairman of WPB for the purpose of the Rubber Administrator instead of, as at present, indirectly through RFC.

The most important part of the plan is obviously the choice of the right man for the position of Rubber Administrator. He should be a thoroughly competent operating and manufacturing executive, preferably with experience in the rubber industry. The demand for speed and the vital need for this to start with experience and knowledge of the problem make it important that the man chosen be of proven integrity and enjoy the public's confidence and that of the rubber industry as well.

We cannot stress too much the importance of choosing the right man for this work, for no plan of organization can bolster up a weak man sufficiently to meet the difficult problems he must face.

One of the problems presented to this Committee has been the difficulty of determining the future needs of the war program for rubber and the components required for the manufacture of synthetic rubber and substitutes. This difficulty arises from the unpredictable character of the war operations as to location, kind of war, and equipment employed under various conditions. In spite of these and other such difficulties, there is need for determining the requirements on an authoritative basis. Every aspect of the rubber problem must be under continuous review by a man whose sole responsibility it is. The most we

PERHAPS THESE
STANDARD
Viking
PUMPS
WILL DO THE WORK

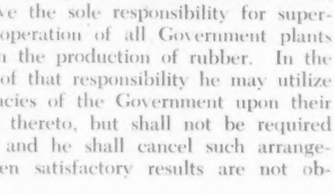

Figure 12—Standard gear driven pump

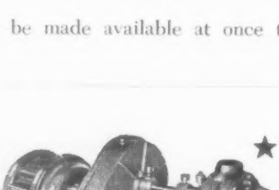

Figure 14—Short base, motor drive twin unit

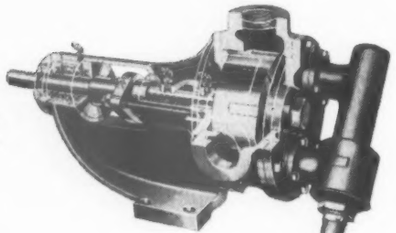

Figure 124—Heavy duty truck mounting pump

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can do is to appraise the present situation and indicate a sound course for the future.

A program can be no better than its administration; therefore we place special emphasis upon these series of recommendations and wish to state that unless they are followed there can be no assurance of the successful development of the synthetic rubber program within the time required.

Agricultural Program

Various plants which can be grown in the United States have been suggested as sources of rubber. Thomas Edison's experiments with goldenrod are an example. Kok-saghiz, a Russian dandelion, is considered promising in the U.S.S.R. as an auxiliary source of rubber, and seeds have been sent to the United States for test planting. However, the two agricultural possibilities which show most promise for the United States are guayule and cryptostegia.

Guayule is a shrub which grows freely in Mexico and the American Southwest. It contains a high percentage of rubber which is extracted from the entire plant. Best yields are obtained after four years' growth, but the shrub can be harvested any time after two years.

The Department of Agriculture has undertaken a large program of guayule cultivation in California, based on an initial independent planting of 500 acres in 1930. With seeds on hand and the expected harvest this month, there will be sixty-six tons of seed available for further planting. The seeds must be planted in a nursery and after one year transplanted to the field. The plans call for planting an acreage increasing to about 180,000 acres by the end of 1944. If this program is carried through, it is anticipated by the Department that there will be crude rubber available from this domestic guayule rising from 600 short tons in 1942 to about 33,000 in the fall of 1944, about 47,000 tons in the fall of 1945, and increasing thereafter.

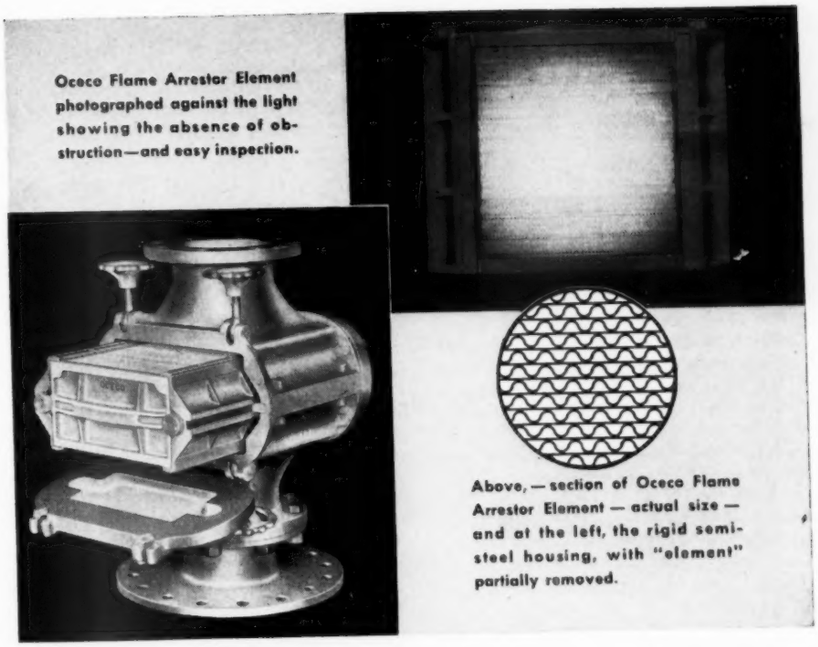
The Committee believes that these estimates are over-optimistic but that the project is inherently sound and should be supported. The Committee therefore recommends that this program be given every possible support as the principal source of crude rubber which could not be lost to us short of conquest of American territory. In order to proceed with this program, however, certain things must be given immediate attenion since the program will be delayed one year unless the following actions are taken before about October 1.

(1) Authorization must be secured to plant additional acreage. There is a question as to whether or not existing legislation would prevent the planting of more than 75,000 acres of guayule. This restriction, if it exists, must be removed very promptly if the program is to go forward on a really significant scale.

(2) The second item is the procurement from WPB of adequate priorities to secure the amount of farm equipment which would be required to prepare the land and plant the seeds. This, again, must be done very promptly to meet the fall planting season.

There are additional requirements for the success of the program, which are sought by the Department of Agriculture and to which the Committee gives its support.

Cryptostegia is second in importance among



Oceco Flame Arrestor Element photographed against the light showing the absence of obstruction—and easy inspection.

Above,—section of Oceco Flame Arrestor Element—actual size—and at the left, the rigid semi-steel housing, with "element" partially removed.

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rubber-producing plants capable of substantial scale production in the United States.

This vine will grow wild in Florida and other southern states. It contains only two or three percent of rubber, but this is of high grade and can be secured from the leaves harvested each year from the perennial vines.

A plan to plant these vines extensively this year has met with relatively small success, owing to a delay in securing authorization for the gathering and purchase of cryptostegia seeds from wild growing vines in Mexico. This authorization was another instance of "too late", and was secured just after the seeds had scattered. There is little to be lost and much might be gained by pursuing this program vigorously when the next opportunity arises next year.

Rubber Goods Manufacturing Capacity

A very important consideration in connection with the synthetic rubber program has to do with capacity of the country to manufacture rubber goods out of the natural and synthetic rubbers which will be available. It would be obviously foolish to carry through a program of plant construction for the manufacture of synthetic rubbers only to discover too late that the factories for the manufacture of tires, electrical insulation, footwear and other rubber goods have insufficient manufacturing capacity to handle the material. The Committee has made a survey of these facilities and finds that, as matters now stand, there may indeed be a deficiency of factory capacity to handle the synthetic rubber when it comes into full production.

The Committee's findings and recommendations in the matter of manufacturing plant capacity are given below under three headings: rubber goods manufacturing capacity, recapping capacity and reclaim rubber capacity.

a) **Rubber goods manufacturing capacity.** The significance of this problem is indicated by the following facts:

1) The largest previous year's use of rubber goods in the U. S. was 773,000 tons of crude rubber in 1941.

2) The largest monthly production in the history of the rubber manufacturing industry used at the rate of about 1,000,000 tons per year of crude rubber—a rate which could not be continuously maintained.

3) The present governmental program calls for the procurement of about 68,000 tons of crude rubber and approximately 910,000 tons of synthetic rubber substitutes in 1944. The recommendations of this Committee would raise the total of these synthetic materials to about 1,100,000 tons.

4) The processing art as developed at present requires more time, on the average, to fabricate than for the same tonnage of natural rubber. The Committee estimates that, on this account, the manufacturing capacity today for synthetic rubber is between two-thirds and three-fourths of what it would be for handling natural rubber.

These facts would indicate that the capacity of the country would have to be increased substantially to handle the quantities of synthetic rubber which will be produced in 1944. However, the following compensating factor must be taken into account:

5) During recent months technical developments in the processing arts have processed very rapidly and the time required for the manufacture of synthetic goods is being reduced. For example, during the short existence of this Committee, means have been found for doubling the speed with which milling and mixing operations can be performed with Butyl rubber. Similar advances are being made in handling the other synthetic rubbers. There is reasonable expectation, therefore, that the intensive technical research program, now being carried on by the rubber companies, will substantially increase the speed with which synthetic rubber goods can be manufactured and therefore increase the manufacturing capacity of the factories.

For this reason **the Committee recommends that the Rubber Administrator institute a survey of milling, mixing and tire building facilities, on about March 1, 1943.** This survey should determine the extent to which these facilities must be expanded in view of the processing and tire building art at that time so as to handle the expected volume of synthetic rubber in 1944, after allowing for export of rubber stocks.

The Committee is informed by the rubber manufacturers that a decision on this matter made by April of 1943 would permit the manufacturing companies to add whatever additional manufacturing facilities might be required, in adequate time to meet the manufacturing schedules of 1944—provided the necessary priorities are given for the procurement of the necessary equipment.

b) **Recapping facilities.** The total recapping capacity of the United States, exclusive of the tire building facilities of the tire manufacturers, is approximately 16,000,000 passenger tire recaps per year. This might be increased to 19,000,000 by operating at full capacity with extra shifts. The program recommended by the Committee for tire replacement and conservation may call for as many as 25,000,000 recaps per year. To meet this deficiency **the Committee recommends utilization of tire molds of the tire recapping plants** so as to meet any excess demand for tire recapping.

c) **Reclaim rubber capacity.** The program of recapping for the conservation of civilian passenger tires, contemplates principally the use of reclaimed rubber. Other essential uses of rubber goods also call for reclaimed rubber. The armed services have gone far in substituting reclaimed rubber for natural rubber wherever circumstances permit, as a measure for the conservation of crude rubber. All of these demands for reclaimed rubber will somewhat exceed the capacity of the present rubber reclaiming plants of the country and indicate the necessity for providing some increase in this capacity.

The Committee is convinced that the quickest and most economical manner of securing increased rubber reclaiming capacity is by working through the existing experience reclaiming companies rather than by erecting new and independent reclaiming facilities to be operated by a relatively inexperienced group.

The Committee therefore recommends that the reclaim rubber manufacturers, through their National Rubber Reclaimers Association be requested to submit to the Rubber Administrator a program for increasing by about 20% of the present rubber reclaiming facilities of the United States, and that authorization be given to carry through such measures as may be necessary in the form of priorities, financial aid or contracts to secure this increase in

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rubber reclaiming capacity during 1943.

Several methods have recently been reported for increasing the useful qualities of reclaimed rubber. At least one of these is reported to involve only the use of chemicals which are not difficult to obtain in the present war economy. The Committee recommends that every encouragement be given to the further development and application of these new processes. Such encouragement could take the form of priorities for procurement of the necessary experimental materials and also financial aid, if necessary.

Scrap Collection

No one can estimate with certainty the amount of scrap rubber in the United States. A reported 450,000 tons of scrap rubber were collected in the drive inaugurated by the President last June. This gross tonnage should yield about 350,000 tons of reclaimed rubber, but there is reason to believe that the actual amount of scrap collected is considerably below the above figure because of duplicated reporting of collections.

There have been sensational claims regarding the amount of scrap rubber still uncollected in the country. The Committee has investigated some of these claims and has found them utterly without foundation in fact.

It is nevertheless true that the rubber now in the scrap piles of the country, together with anticipated current receipts, are sufficient to feed the rubber reclaiming plants at full capacity for about eighteen months. During this time further scrap collections will continue through the normal operations of scrap collectors and junk dealers.

In addition to this supply the armed services have instituted, as part of their program of rubber conservation, an inspection system which will insure that damaged tires from military vehicles will be repaired if possible, and if not capable of repair will be assembled through scrap collecting agencies and thus fed into the nation's scrap stockpile.

Still another supply of scrap rubber will come automatically if new tires are rationed to civilian drivers in accordance with the recommendations of this report, since a condition for the procurement of a new tire will be the turning in of the worn out tire for scrap.

With these supplies of scrap rubber in sight there will be adequate time for the careful preparation of another national scrap rubber drive well in advance of serious depletion of the existing stocks. The Committee recommends that this drive be carefully prepared in advance to secure its maximum effectiveness, and to this end suggests that the Rubber Administrator take the initiative in selecting and directing the proper agencies for the organization and conduct of this drive. The Committee further believes that these steps can most advantageously be undertaken about a year hence.

Elsewhere in this report the Committee makes a number of recommendations in regard to the increased production and more efficient use of the reclaimed rubber produced from this scrap.

Technical Suggestions for the Rubber Administrator

As a result of the study made by our experts the Committee has been in a position to evaluate a number of technical points in connection with the rubber program. Therefore we have a number of recommendations to make of a minor nature which we should like to pass on to the man who, we hope, will be in charge of the rubber program as Rubber Administrator. We shall assume that he will immediately place a highly competent man on a full-time basis in charge of his Technical Division, and it is to that man in particular that these suggestions are directed.

1. We recommend the immediate installation of one or more small commercial pilot plants using the catalyst system developed by Standard Oil of New Jersey operating on butylene feed stock. These should be completed with fractionating towers and refining systems to the end that they may serve as training plants for the study of any difficulties that may be experienced in bringing the large units into operation at rated capacity, and for trying out suggested means for improving the over-all operations.

2. We recommend that one of the large-scale plants operating on this same process should be given as high priority rating as possible to insure that it is completed by March, 1943, so that experience may be gained on the full scale operation of this plant. Although our experts have no doubt that the engineering data provided by the small scale experiments are adequate for the design of the large plants, it is clearly a difficult and somewhat uncertain matter to make the transition to the full large scale plant which must be operated.

3. We believe that the purification of butadiene deserves further investigation both in the laboratory and in the pilot plants.

4. The Committee has explored new and novel substitutes for conventional rubber tires, largely through access to a very full survey of such devices conducted by a special committee of the Society of Automotive Engineers at the suggestion of the National Inventors' Council.

Among these devices one stood out as possessing promise of giving relief to the less essential drivers in urban areas during the next few critical years. It is the "sandal," developed by one of the large rubber companies, and consisting of a section of carpet impregnated with asphalt and easily fitted over an ordinary tire which has been too far worn to be used further with safety. On asphalt or concrete street, and at very moderate speeds, these sandals have a life of between 1,000 and 2,000 miles. Using no critical materials and easily manufactured, they may provide temporary relief to drivers who may otherwise be unable to continue driving their cars. The Committee considers this to be an interesting possibility in the emergency and recommends that it be further studied.

5. The Committee recommends that the policy of encouraging inventors and research groups working on the development of rubber or rubber substitutes should be adopted. This encouragement might take the form of granting priorities for critical materials, where the amounts required are not excessive, for experimental and pilot plant development.

6. Recognizing the necessity for providing a real incentive to conserve crude rubber by finding ways of substituting synthetic, we favor the plan that was suggested by the Synthetic Rubber Section of the Chemical Branch of the War Production Board. This provided for a greater than proportionate increase in a manufacturer's synthetic rubber allocation if he could increase the percentage of synthetic rubber in his product.

Inadequate supplies of synthetics have forced postponement of this plan for the time being, but we suggest that it be reinstated in the program when large-scale production of synthetic rubber is attained. A further incentive for increasing the use of synthetics may be provided, within the limits of product specifications, by raising the price of crude relative to synthetic rubber.

7. Polyvinyl resins are now being used as rubber substitutes at a rate which corresponds to a saving of approximately 22,000 tons of crude rubber per year. Other substitutes are under consideration, but there is no well-defined clearing house in any government agency at the present time for promising materials. Suggestions come in to the Rubber Reserve Company, War Production Board, the OPA and various other government organizations, but center at no definite point, with the result that there is duplication of effort and delay in evaluating such new materials. This should be centered under an official reporting to the Rubber Administrator.

8. There appears to be considerable confusion in regard to the military involving rubber substitutes. Several branches of the Navy and the Army each have been searching for rubber substitutes and are in competition with each other to obtain scarce materials. The Rubber Administrator should furnish the proper liaison for the Armed Services and should center research along these lines under his own control.

9. The Committee suggests the institution of a prompt survey to determine the number of chemical engineers and other technically trained men who will be required to operate the synthetic rubber plants now under construction. And if this survey indicates a serious shortage of such technical talent, that the Manpower Commission be called upon for assistance in devising a policy for meeting the situation.

10. Inspections of a large number of crude and scrap rubber stockpiles and examination of the methods being used for their protection have convinced the Committee that this situation is generally satisfactory. A number of spots were found, however, where protection is definitely inadequate. While commending the inspection program now set up by Rubber Reserve Company, the Committee suggests the advisability of more adequate protection through additional armed guards wherever a hazardous situation is found to exist. These stockpiles constitute some of the most critical possessions of the nation.

11. The Committee also suggests the introduction into the manufacture of "camelback" for the retreading of civilian tires, the practice of adding up to 20% of finely ground tire treads into all reclaimed rubber tread stocks. This practice will improve the wearing qualities of the reclaimed rubber required for their production. This will be equivalent in its results to a further increase of between 10% and 20% in the capacity of the reclaim rubber plants.

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COMING MEETINGS

SEPTEMBER

Controllers Institute of America, Annual Meeting, Palmer House, Chicago, Ill., Mon.-Wed., Sept. 21-23.
New Jersey Oil Trade Assn., Fall Golf Outing and Dinner, Suburban Golf Club, Elizabeth, N. J., Thurs., Sept. 24.
American Gas Assn., San Francisco, Calif., Mon.-Wed., Sept. 28-30.
Oil Trade Assn. of Philadelphia, Fall Golf Match, Overbrook Country Club, Overbrook, Pa., Wed., Sept. 30.
New England Tax Conference, Hotel Biltmore, Providence, R. I., Wed.-Thurs., Sept. 30-Oct. 1.
American Institute of Mining & Metallurgical Engineers, Regional Meeting, St. Louis, Mo., Wed.-Fri., Sept. 30-Oct. 2.

OCTOBER

Interstate Oil Compact Commission, Autumn Meeting, Palmer House, Chicago, Ill., Thurs.-Sat., Oct. 1-3.
American Institute of Mining & Metallurgical Engineers, Regional Meeting, St. Louis, Mo., Fri., Oct. 2.
American Gas Assn., Annual Meeting, LaSalle Hotel, Chicago, Ill., Mon.-Tues., Oct. 5-6.
29th National Foreign Trade Convention, Hotel Statler, Boston, Mass., Wed.-Fri., Oct. 7-9.
Texas Mid-Continent Oil & Gas Assn., 23rd Annual Meeting, Dallas, Tex., Thurs.-Sat., Oct. 8-10.
Western Petroleum Refiners Assn., Allis Hotel, Wichita, Kans., Fri., Oct. 9.
American Society of Mechanical Engineers, Fall Meeting, Rochester, N. Y., Mon.-Wed., Oct. 12-14.
American Institute of Mining & Metallurgical Engineers, Petroleum Division, Hotel Ambassador, Los Angeles, Calif., Thurs.-Fri., Oct. 15-16.
Indiana Independent Petroleum Assn., Hotel Severin, Indianapolis, Ind., Wed.-Thurs., Oct. 14-15.
National Stripper Well Assn., Annual Meeting, Wichita, Kans., Mon., Oct. 19.
Independent Petroleum Assn. of America, 13th Annual Meeting, Lassen Hotel, Wichita, Kans., Mon.-Wed., Oct. 19-21.
National Tax Conference, Netherlands Plaza Hotel, Cincinnati, Ohio, Mon.-Thurs., Oct. 19-22.
Ohio Petroleum Marketers Assn., Annual Convention and Marketing Exposition, Hotel Deshler-Wallick, Columbus, Ohio, Wed.-Thurs., Oct. 20-21.
Society of Automotive Engineers, Midwest Fuels & Lubricants Regional Meeting, Tulsa, Okla., Thurs.-Fri., Oct. 22-23.
National Lubricating Grease Institute, 10th Annual Meeting, New Orleans, La., Sun.-Thurs., Oct. 25-29.
National Assn. of Credit Men, Petroleum Div., Coronado Hotel, St. Louis, Mo., Mon.-Wed., Oct. 26-28.
31st National Safety Congress and Exposition, Sherman Hotel, Chicago, Ill., Tues.-Thurs., Oct. 27-29.
Oil Trades Assn. of New York, Annual Banquet, Waldorf-Astoria Hotel, New York, N. Y., Wed., Oct. 28.
American Institute of Mining & Metallurgical Engineers, Petroleum Division, Austin, Tex., Thurs.-Sat., Oct. 29-31.
Western Petroleum Refiners Assn., Washington-Youree Hotel, Shreveport, La., Fri., Oct. 30.

NOVEMBER

American Assn. of Petroleum Geologists, Los Angeles, Calif., Thurs.-Fri., Nov. 5-6.
California Natural Gasoline Assn., Los Angeles, Calif., Fri., Nov. 6.
American Petroleum Institute, 23rd Annual Meeting, Palmer House, Chicago, Ill., Mon.-Fri., Nov. 9-13.
American Institute of Chemical Engineers, 35th Annual Meeting, Netherlands Plaza, Cincinnati, O., Mon.-Wed., Nov. 16-18.
American Chemical Society, National Chemical Exposition and National Industrial Chemical Conference, Sherman Hotel, Chicago, Ill., Tues.-Sun., Nov. 24-29.
American Society of Mechanical Engineers, Annual Meeting, New York, N. Y., Mon.-Fri., Nov. 30-Dec. 4.
15th National Exposition of Power and Mechanical Engineering, Central Palace, N. Y., Mon.-Sat., Nov. 30-Dec. 5.

DECEMBER

New Mexico Oil & Gas Assn., Artesia Hotel, Artesia, N. M., Wed., Dec. 2.
New Jersey Oil Trade Assn., Annual Banquet & Election of Officers, Robert Treat Hotel, Newark, N. J., Thurs., Dec. 3.

JANUARY, 1943

North Carolina Oil Jobbers Assn., Hotel Carolina, Raleigh, N. C., Wed., Jan. 20.

FEBRUARY

American Institute of Mining & Metallurgical Engineers, Annual Meeting, New York, N. Y., Mon.-Thurs., Feb. 15-18.
Iowa Independent Oil Jobbers' Assn., Hotel Fort Des Moines, Des Moines, Ia., Wed.-Fri., Feb. 24-26.

APRIL

American Petroleum Institute, Division of Production, Eastern District, Wm. Penn Hotel, Pittsburgh, Pa., April 8-9.

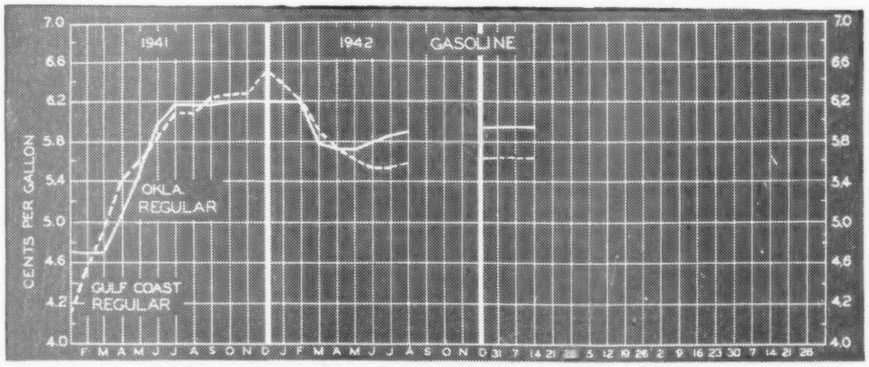
MAY

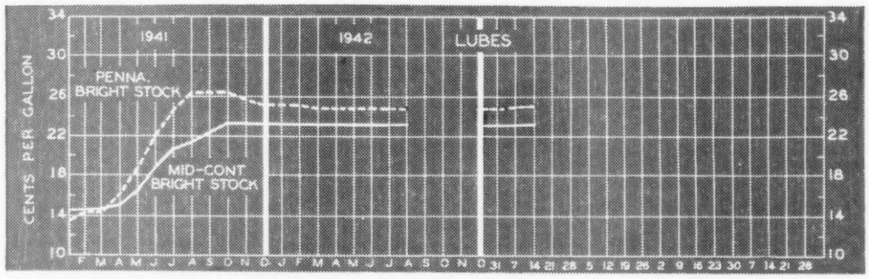
Petroleum Industry Electrical Assn., Houston, Tex., Wed.-Thurs., May 5-6.

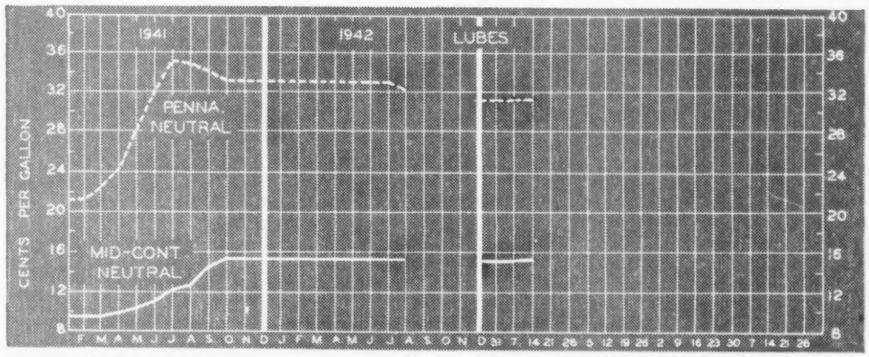
STATISTICS

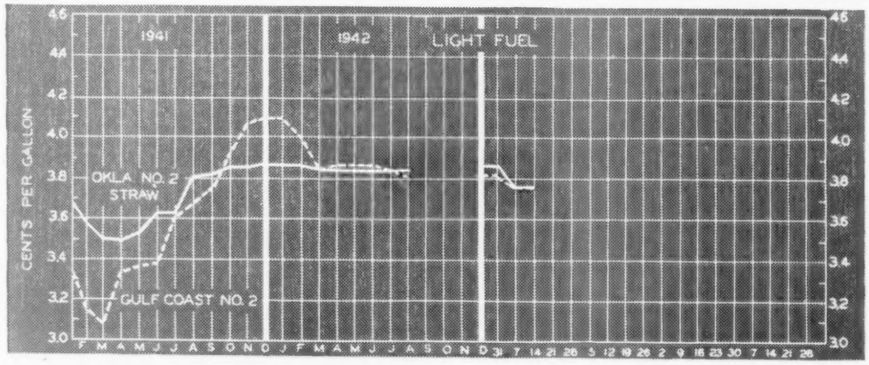
Refinery Prices

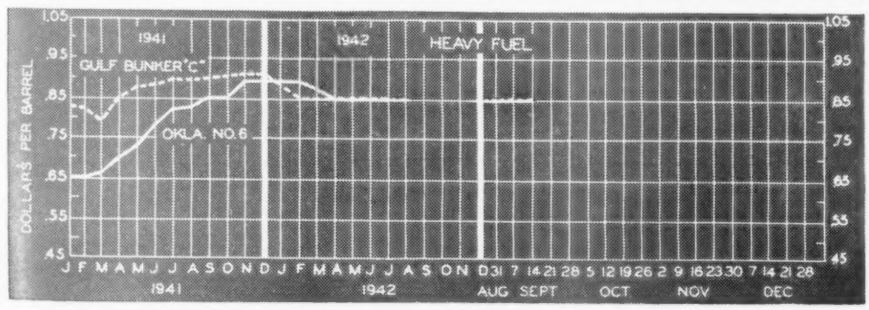
Monthly prices in graphs are averages of daily high and low prices shown in Platt's Oilgram Weekly prices are averages of high and low prices shown in Monday Oilgram, and in NPN











Pennsylvania Crude Runs

(Compiled by National Petroleum Assn. from reports of all companies which refined Pennsylvania crude. Figures in barrels.)

Week Ended	Daily Average	Week Ended	Daily Average
Jan. 3	72,172	May 16	86,351
Jan. 10	77,676	May 23	85,563
Jan. 17	81,658	May 30	80,046
Jan. 24	84,089	June 6	83,996
Jan. 31	82,603	June 13	83,808
Feb. 7	74,927	June 20	83,648
Feb. 14	77,436	June 27	80,837
Feb. 21	82,682	July 4	77,973
Feb. 28	84,173	July 11	83,919
Mar. 7	80,131	July 18	84,892
Mar. 14	76,862	July 25	67,243
Mar. 21	79,510	Aug. 1	77,757
Mar. 28	84,185	Aug. 8	72,336
Apr. 4	78,175	Aug. 15	83,256
Apr. 11	82,557	Aug. 22	84,391
Apr. 18	82,067	Aug. 29	77,625
Apr. 25	19,353	Sept. 5	79,613
May 2	80,399	1941 Low	61,384
May 9	80,761	1941 High	84,326

Gasoline Consumption by States

(American Petroleum Institute figures in thousands of gallons)

	Total 6 Months Ending June 30th		% of Change
	1942	1941	
Alabama	157,152	150,941	+ 4.11
Arizona	61,606	60,126	+ 2.46
Arkansas	102,205	101,621	+ 0.57
California	1,165,195	1,046,420	+11.35
Colorado (a)	88,833	99,157	—10.41
Connecticut	176,526	195,070	— 9.51
Delaware	29,306	31,721	— 7.61
Dist. of Col.	83,759	91,817	— 8.78
Florida	230,387	245,525	— 6.17
Georgia	191,911	215,398	—10.91
Idaho	47,808	51,607	— 7.36
Illinois	705,330	782,851	— 9.90
Indiana	370,856	389,679	— 4.83
Iowa	279,020	292,666	— 4.66
Kansas	234,139	261,429	—10.44
Kentucky	139,985	155,301	— 9.86
Louisiana	137,475	155,886	—11.81
Maine	66,423	74,579	—10.94
Maryland	158,440	169,560	— 6.56
Massachusetts	318,811	376,601	—15.35
Michigan (a)	494,567	530,081	— 6.70
Minnesota	263,930	276,142	— 4.42
Mississippi	123,198	122,083	+ 0.91
Missouri	328,747	370,214	—11.20
Montana	58,462	68,683	—14.88
Nebraska	108,331	119,408	— 9.28
Nevada	23,688	21,451	+10.43
New Hampshire	37,433	44,173	—15.26
New Jersey	436,591	474,124	— 7.92
New Mexico (b)	46,140	50,645	— 8.90
New York	817,495	959,397	—14.74
North Carolina	226,061	257,707	—12.28
North Dakota	75,368	73,030	+ 3.20
Ohio	736,097	773,342	— 4.82
Oklahoma	210,178	227,838	— 7.75
Oregon	135,616	136,169	— 0.41
Pennsylvania	721,585	793,852	— 9.10
Rhode Island	61,174	69,543	—12.04
South Carolina	118,192	131,208	— 9.92
South Dakota	67,051	70,641	— 5.08
Tennessee	176,191	179,224	— 1.69
Texas	832,847(c)	766,521	+ 8.65
Utah	51,266	53,192	— 3.62
Vermont	27,704	32,723	—15.34
Virginia	212,634	231,614	— 8.20
Washington	212,266	199,988	+ 6.14
West Virginia	101,295	107,424	— 5.71
Wisconsin	275,669	290,957	— 5.26
Wyoming	29,288	34,122	—14.17
Total	11,170,831	11,784,213	— 5.21
Daily Average	61,717	65,106	

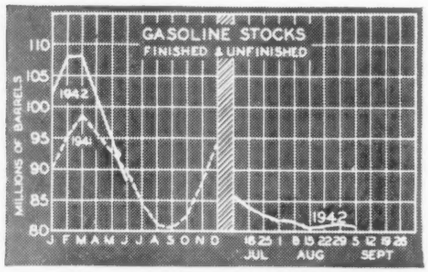
(a) June figures not available at time of publication. Figures shown are for first 5 months and are not included in totals.

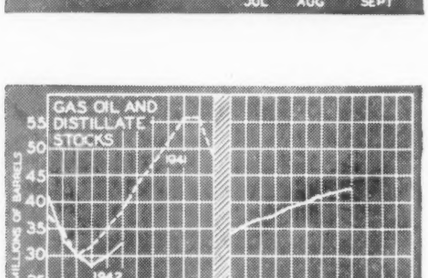
(b) Figures revised for period Jan., 1940 to May, 1942.

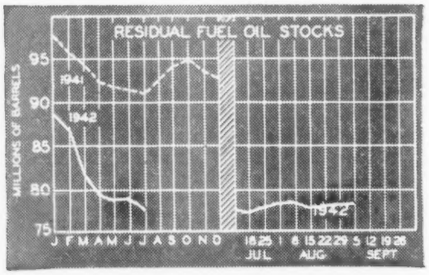
(c) February, 1942 consumption revised downward 28,549,000 gals.

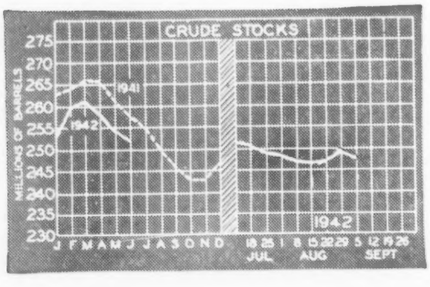
STATISTICS

Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines.









Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gallons each. Figures include reported totals plus an estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended Sept. 5	Daily Potential Refining Capacity Week Ended Aug. 29	Per Cent of Refining Capacity Reporting Week Ended Sept. 5	Per Cent of Refining Capacity Reporting Week Ended Aug. 29	Daily Average Crude Runs to Stills Week Ended Sept. 5	Daily Average Crude Runs to Stills Week Ended Aug. 29	Per Cent of Reporting Capacity Operated Week Ended Sept. 5	Per Cent of Reporting Capacity Operated Week Ended Aug. 29
Combined‡	2,440	2,440	88.2	88.2	1,580	1,655	64.8	67.8
Appalachian	176	176	84.8	84.8	149	158	84.7	89.8
Ind., Ill., Ky.	804	804	83.3	83.3	730	737	90.8	91.7
Okla., Kans., Mo.	416	416	80.1	80.1	378	366	90.9	88.0
Rocky Mt.	147	147	48.0	48.0	98	94	66.7	63.9
California	817	817	89.9	89.9	721	687	88.2	84.1
TOTAL U. S.—B. of M. Basis	4,800	4,800	85.6	85.6	3,656	3,697	76.2	77.0
U. S.—B. of M. Basis Sept. 6, 1941					4,051			

Districts	Gasoline Production at Refineries inc. Natural Blended Week Ended Sept. 5	Gasoline Production at Refineries inc. Natural Blended Week Ended Aug. 29	Stocks of Finished and Unfinished Gasoline Week Ended Sept. 5	Stocks of Finished and Unfinished Gasoline Week Ended Aug. 29	Total Stocks Gas Oil & Distillates Week Ended Sept. 5	Total Stocks Gas Oil & Distillates Week Ended Aug. 29	Total Stocks Residual Fuel Oil Week Ended Sept. 5	Total Stocks Residual Fuel Oil Week Ended Aug. 29
Combined‡	4,842	5,062	38,578	38,886	21,993	21,558	18,726	18,794
Appalachian	452	446	2,832	2,858	589	596	472	486
Ind., Ill., Ky.	2,517	2,498	14,222	14,547	5,735	5,595	3,524	3,625
Okla., Kans., Mo.	1,249	1,257	6,838	6,932	1,792	1,742	1,347	1,296
Rocky Mt.	304	306	1,899	1,949	448	434	530	535
California	1,868	1,731	15,987	15,659	12,262	12,135	53,658	53,298
Total U. S.—B. of M. Basis	11,232	11,300	80,356°	80,831°°	42,819	42,060	78,267	78,034
U. S.—B. of M. Basis Sept. 6, 1941	13,647		80,366		47,833		93,900	

° Finished 71,962,000 bbls; unfinished 8,394,000 bbls.
°° Finished 72,306,000 bbls.; unfinished 8,525,000 bbls.
‡Includes East Coast, Inland Texas, Texas Gulf, Louisiana Gulf, and North Louisiana-Arkansas districts.

Crude Oil Stocks

(Bureau of Mines figures in thousands of barrels)

Grade or Origin	Aug. 29	Sept. 5	Change
Pennsylvania Grade	3,322	3,382	+ 60
Other Appalachian	1,284	1,228	— 56
Lima-Michigan	1,504	1,578	+ 74
Illinois-Indiana	12,087	11,511	— 576
Arkansas	2,685	2,672	— 13
Kansas	7,348	7,295	— 53
Louisiana:	13,188°	13,144	— 44
Northern	4,480	4,451	— 29
Gulf Coast	8,708°	8,693	— 15
Mississippi	1,580	1,560	— 20
New Mexico	5,963	5,808	— 155
Oklahoma	45,578	45,167	— 411
Texas:	101,905	102,092	+ 187
East Texas	26,384	25,450	— 934
West Texas	25,016	24,861	— 155
Gulf Texas	27,553	28,146	+ 593
Other Texas	22,952	23,635	+ 683
Panhandle	4,224	4,256	+ 32
North	6,410	6,963	+ 553
South	4,820	4,835	+ 15
Other	7,498	7,581	+ 83
Rocky Mountain	15,603	15,418	— 185
California	36,054	35,869	— 185
Foreign	263	218	— 45
Total U. S. refinable	248,364°	246,942	—1,422
Heavy in California	10,673	10,562	— 111

°Revised.

N.P.N. Gasoline Index

	Dealer T.W. Cents Per Gallon	Tank Car Cents Per Gallon
Sept. 14	10.47	6.66
Month ago	10.47	6.67
Year ago	10.04	6.77

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

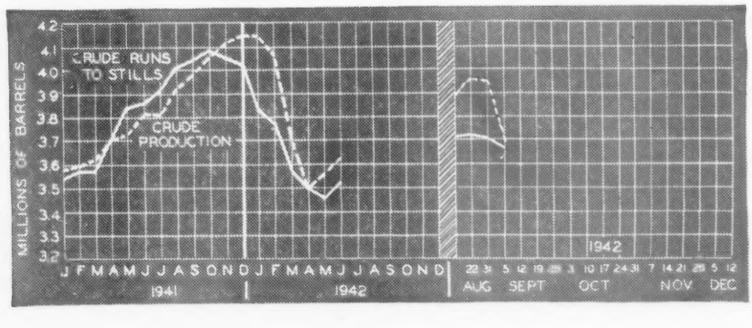
Tank car index is a weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston and Gulf Coast.

Oil Burner Statistics

(Compiled by Bureau of Census. Figures include burners consuming Commercial Standard No. 1 fuel oil or heavier.)

	July 1942	June 1942	July 1941	June 1941
New orders, less cancellations	8,214	9,396	28,511	23,008
Unfilled orders, end of month	18,317	18,763	23,114	6,974
Shipments	8,660	8,441	27,845	22,019
Stocks, end of month	39,122	40,170	33,017	23,400

	7 months totals (January-July) 1942	1941	1940
New orders, less cancellations	89,697	177,722	113,953
Shipments	89,439	162,651	109,884

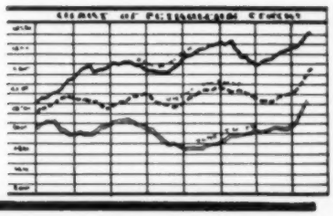

CRUDE RUNS TO STILLS
CRUDE PRODUCTION
MILLIONS OF BARRELS
1942
J F M A M J J A S O N D J F M A M J J A S O N D
1941
1942
22 31 5 12 19 26 3 10 17 24 31 7 14 21 28 5 12
AUG SEPT OCT NOV DEC

Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Sept. 5 Barrels (Daily Average)	WEEK ENDED Aug. 29 Barrels (Daily Average)		WEEK ENDED Sept. 5 Barrels (Daily Average)	WEEK ENDED Aug. 29 Barrels (Daily Average)
Oklahoma	379,300	378,600	Eastern (Ill. & Ind. excluded)	97,350	96,500
Kansas	245,850	290,050	Michigan	61,900	61,800
Nebraska	3,300	3,200	Wyoming	88,450	90,900
Texas	1,207,900	1,412,350	Montana	21,700	22,900
Louisiana	328,500	338,200	Colorado	6,700	6,550
Arkansas	72,350	71,050	N. Mexico	95,350	95,300
Mississippi	72,000	75,550	California	716,000	736,400
Illinois	267,700	268,050	Total U. S.	3,682,750	3,964,350
Indiana	18,400	16,950			

Oil MARKETS



Mid-Continent

TULSA, Sept. 12.—"Very satisfactory" demand and firm prices for most refined products continued in Mid-Continent markets the past week, according to most refiners, while low inventories and over-all shortage of transportation impeded refiners' efforts to satisfy calls.

Tightest situation was in light fuels, according to many refiners, with "a flood" of inquiries pouring in from Districts 1 and 2; gasoline demand, however, was reported unabated as expected seasonal slump failed to materialize. Coordination of transportation with supplies was main problem, several refiners said. Natural gasoline market was reported "in good shape" and "very busy" by several sellers, with most material moving on contract.

Atlantic Coast

NEW YORK, Sept. 12.—Suppliers at points along the Atlantic Seaboard reported no changes in products markets the past week. Chief concern of suppliers at present, they said, is scarcity of heating oil, of which they have little in storage, and difficulty of transporting required material into the district. One supplier said refiners in the Southwest were offering gasoline for shipment in their own cars to the East but were reluctant to ship the more urgently needed fuel oil. "It's very hard to get kerosine or fuel," he said.

Reports varied on gasoline, with regular grades said to be "easy" at New York but tight at other points because of the transportation "bottleneck."

Heavy fuel receipts into the area were said to be adequate for present industrial requirements, but supplies expressed uncertainty over their ability to supply enough material when Winter sets in and adds heating requirements thereto.

Products quotations were unchanged at all points.

Gulf

NEW YORK, Sept. 12.—In a week of general inactivity at the Gulf traceable to transportation shortages, one open spot sale of gasoline and several inquiries were reported.

Sale was of 25 cars of 72-74 oct. A.S.T.M. leaded gasoline for shipment East at 5.75c plus 5c per bbl. for loading. Sale price was 0.5c above that of last previously reported, and refiner said his quotations for all products now are on a "ceiling" basis plus loading charges.

Inquiries for 50,000 bbls. of No. 2 fuel and 150 cars of kerosine, both for shipment East, were reported by a refiner who said he was sold up on both products and Bunker "C" for the balance of the year.

Several other refiners reported business "slowed considerably" because of transportation. "We could sell plenty, but we don't have the cars and our customers don't either," he said. He added he was not accumulating stocks, however, as his plant is shut down until transportation is straightened out.

Pennsylvania

NEW YORK, Sept. 12.—Tightening up of all lubes was reported by refiners in Western Penna. Cylinder stocks and bright stock were very closely held. "We're six weeks behind on 600 s.r.," one refiner commented. Neutrals showed steady improvement under increased call for motor oil. Reports from some sources stated that refiners were refusing to sell bright unless buyers took some neutral also. Neutral prices were unchanged, however; "there will have to be a little more movement before prices go up," refiners said.

Light products continued very tight under active demand. Inventories of gasoline, kerosine, and burning oils were low, and many refiners said they were shipping production to meet commitments.

California

LOS ANGELES, Sept. 12.—Prices of all products remain unchanged. Gasoline continued very weak as the smaller independent refiners carried on their price battle which began several weeks ago.

At the low end of the scale gasoline could be bought for 4.5c, 5.5c and 6c FOB refinery.

Mid-Western

CHICAGO, Sept. 12.—Active call continued for fuels, both light and heavy, this past week, according to reports of refiners and marketers, with material "very tight". Gasoline, on the other hand, was said to be "loosening up". Strong Eastern demand and fall storage shipments exhausted the supply of one refiner, he reported. Another supplier is confident that there is sufficient fuel oil to satisfy Mid-West domestic heating requirements.

Details of the gas rationing program were awaited here. "Floundering around until we know how drastic it is going to be", was typical comment of refiners. "Keener competition for local sales will result" was the prediction of one supplier, and another commented that "gasoline will pile up at all terminals".

Price quotations were unchanged.

Index of Governmental Orders Concerning Petroleum Prices

Orders, "requests", "ceilings", and other statements issued by governmental agencies concerning prices of petroleum and products, prices for which are published in this market section of NATIONAL PETROLEUM NEWS, have been published as follows:

	NATIONAL PETROLEUM NEWS	PLATT'S OILGRAM	Platt's OIL-Law-GRAM
Nov. 21, '41—Maximum prices for paraffin wax	Nov. 26, pg. 5	Nov. 21, pg. 1	Pg. 66
Jan. 17, '42—OPA letter restating contents of letters of Nov. 7, 10 and 28, '41	Jan. 21, pg. 7	Jan. 19, pg. 1	Pg. 135
Jan. 28, '42—Amendment No. 1 to paraffin wax price schedule	Feb. 11, pg. 20	Jan. 29, pg. 1	Pg. 153
Feb. 2, '42—OPA Price Schedule No. 88	Feb. 11, pg. 17	Feb. 4, pg. 1	Pg. 159
Feb. 5, '42—Amendment No. 1 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Feb. 7, '42—Amendment No. 2 to OPA Price Schedule No. 88	Feb. 11, pg. 18	Feb. 9, pg. 1	Pg. 167
Amendment No. 1 to Revised Price Schedule No. 88 (Combined form of Schedule 88 and its 4 previously issued amendments)	Mar. 11, pg. 15	Mar. 7, pg. 1	Pg. 205
Mar. 25, '42 — Maximum prices for Penna. grade crude	Apr. 1, pg. 19	Mar. 25, pg. 1	Pg. 237
Mar. 26, '42—Maximum s.s. prices for regular-grade gasoline in East Coast & Pacific Northwest	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 243
Mar. 26, '42—Approval of 0.5c advance in gasoline, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Approval of 0.4c advance in kerosine and light fuels, Atlantic Coast states	Apr. 1, pg. 10	Mar. 25, pg. 4	Pg. 241
Mar. 26, '42—Maximum prices for Bunker "C" & No. 6 fuel, East & Gulf Coasts	Apr. 1, pg. 11	Mar. 25, pg. 4	Pg. 242
Apr. 4, '42—Minimum 3c margin for operators in Curtailment Area	Apr. 8, pg. 3	Apr. 7, pg. 2	Pg. 271
Apr. 4, '42—Prices for crude from wells opened since Oct. 1, 1941	Apr. 8, pg. 5	Apr. 6, pg. 1	Pg. 273
Apr. 18, '42—Price advance for Ritchie, La. crude	Apr. 22, pg. 10	Apr. 20, pg. 2	Pg. 309
Apr. 27, '42—Tank wagon prices: Arkansas, Montana, New Mexico, Oklahoma, Wyoming	May 13, pg. 7	Apr. 29, pg. 1	Pg. 353
Apr. 28, '42—East Coast advance effective Apr. 30	Apr. 29, pg. 3	Apr. 29, pg. 1	Pg. 355
Apr. 28, '42—Maximum service station prices	May 6, pg. 12	Apr. 29, pg.	Pg. 358
May 12, '42—Maximum prices Pacific Coast area	May 20, pg. 7	May 14, pg. 2	Pg. 402
May 26, '42—Discounts frozen at Oct. 1-15, '41 levels	June 3, pg. 9	May 27, pg. 1	Pg. 439
June 27, '42—East Coast advance effective June 29	July 1, pg. 3	June 27, pg. 1	Pg. 534
July 29, '42—Basing "ceiling" prices on published Group 3 quotations	Aug. 26, pg. 3	Aug. 26, pg. 4	Pg. 714
Aug. 3, '42—East Coast decrease effective Aug. 5	Aug. 1, pg. 1	Aug. 5, pg. 3	Pg. 649

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (Sept. 8 to Sept. 14)

	Monday Sept. 14	Friday Sept. 11	Thursday Sept. 10	Wednesday Sept. 9	Tuesday Sept. 8
U. S. Motor, (ASTM octane)					
78 octane Ethyl:					
Oklahoma	6.75 – 6.875	6.75 – 6.875	6.75 – 6.875	6.75 – 6.875	6.75 – 6.875
Mid-Western (Group 3 basis)	6.75 – 7.125	6.75 – 7.125	6.75 – 7.125	6.75 – 7.125	6.75 – 7.125
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.6 – 7	6.6 – 7	6.6 – 7	6.6 – 7	6.6 – 7
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7 (2)	7 (2)	7 (2)	7 (2)	7 (2)
72-74 octane:					
Oklahoma	5.875– 6	5.875– 6	5.875– 6	5.875– 6	5.875– 6
Mid-Western (Group 3 basis)	5.875– 6	5.875– 6	5.875– 6	5.875– 6	5.875– 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75 – 6	5.75 – 6	5.75 – 6	5.75 – 6	5.75 – 6
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6	6	6	6	6
63-66 octane:					
Oklahoma	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625
Mid-Western (Group 3 basis)	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.375– 5.5	5.375– 5.5	5.375– 5.5	5.375– 5.5	5.375– 5.5
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)
60 octane & below:					
Oklahoma	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
Mid-Western (Group 3 basis)	5.1 – 5.25	5.1 – 5.25	5.1 – 5.25	5.1 – 5.25	5.1 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875– 5.25	4.875– 5.25	4.875– 5.25	4.875– 5.25	4.875– 5.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25	5.25	5.25	5.25	5.25
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2
New York harbor, barges	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2	9.1 – 9.2
Philadelphia district	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7
Baltimore district	8.95	8.95	8.95	8.95	8.95
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.5–7.75 (2)	7.5–7.75 (2)	7.5–7.75 (2)	7.5–7.75 (2)	7.5–7.75(2)
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.25 – 7.3	7.25 – 7.3	7.25 – 7.3	7.25 – 7.3	7.25 – 7.3

REFINERY PRICES

Gasoline—U. S. Motor (ASTM) except where otherwise specified

Prices in Effect	Sept. 14	Sept. 8
OKLAHOMA		
78 oct. Ethyl	6.75 – 6.875	6.75 – 6.875
72-74 oct.	5.875– 6	5.875– 6
63-66 oct.	5.5 – 5.625	5.5 – 5.625
60 oct. & below	5.125– 5.25	5.125– 5.25
60-62 400 e.p.	5.125 (1)	5.125 (1)
MID-WESTERN (Group 3 basis)		
78 oct. Ethyl	6.75 – 7.125	6.75 – 7.125
72-74 oct.	5.875– 6	5.875– 6
63-66 oct.	5.5 – 5.625	5.5 – 5.625
60 oct. & below	5.1 – 5.25	5.1 – 5.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	6.6 – 7	6.6 7
72-74 oct.	5.75 – 6	5.75 – 6
63-66 oct.	5.375– 5.5	5.375– 5.5
60 oct. & below	4.875– 5.25	4.875– 5.25
60-62, 400 e.p.	5.375(1)	5.375 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	7 (2)	7 (2)
72-74 oct.	6	6
63-66 oct.	5.75(1)	5.75 (1)
60 oct. & below	5.25	5.25
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	7 (2)	7 (2)
72-74 oct.	5.875 (2)	5.875 (2)
67-69 oct.	5.375 (1)	5.375 (1)
62 oct. & below	5.125 (2)	5.125 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential teritory.)		
60 oct. & below	No Price	No Price
60-62, 400 e.p.	No Price	No Price
KANSAS (For Kansas destinations only)		
78 oct. Ethyl	7.25 (1)	7.25 (1)
72-74 oct.	6 –6.2 (2)	6 –6.2 (2)
63-66 oct.	5.625–5.8 (2)	5.625–5.8 (2)
60 oct. & below	5.25 –5.4 (2)	5.25 –5.4 (2)

Prices in Effect	Sept. 14	Sept. 8
ARK. (For shipment to Ark. & La.)		
72-74 oct., leaded	6 (1)	6 (1)
70-72 oct, " "	5.875(1)	5.875 (1)
62 oct. " "	5.5(1)	5.5 (1)
60 oct. & below, unleaded	5.375(1)	5.375 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.5–7.75 (2)	7.5–7.75 (2)
Other districts:		
"Q" Gasoline Min. 70 Oct. (ASTM)	7.25 – 7.3	7.25 – 7.3
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
U.S. Motor: (Oct. ASTM):		
72-74 oct.	8 – 8.5	8 – 8.5
67-69 oct.	7.5 – 8 (2)	7.5 – 8 (2)
Str. run gasoline, excluding Detroit shpt.	5 – 6	5 – 6
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
78 oct. & above (Ethyl)	6 – 8.75	6 – 8.75
70-75 oct. (regular)	5.5 – 7.75	5.5 – 7.75
65 oct. & below (3rd grade)	4.5 – 6.75	4.5 – 6.75

Kerosine, & Gas Fuel Oils

Prices in Effect	Sept. 14	Sept. 8
OKLAHOMA		
41-43 grav. w.w.	4.375– 4.5	4.375– 4.5
42-44 grav. w.w.	4.5 – 4.625	4.5 – 4.625
Range Oil	4 – 4.125	4 – 4.125
No. 1 P.W.	3.875	3.875
No. 1 straw	3.875– 4 (1)	3.875–4 (1)
No. 2 straw	3.6 – 3.875	3.6 – 3.875
No. 3 fuel	3.5 (2)	3.5 (2)
U. G. I. Gas Oil	3.625–3.75 (1)	3.625–3.75 (1)
No. 6 fuel	$0.80-$0.90(2)	$0.80-$0.90(2)
14-16 fuel	$0.95 (1)	$0.95 (1)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375– 4.625	4.375– 4.625
42-44 grav. w.w.	4.5 (2)	4.5 (2)
Range Oil	4 – 4.1 (2)	4 –4.1(2)
No. 1 p.w.	3.875– 4.125	3.875– 4.125
No. 2 straw	3.6 – 3.625	3.6 – 3.625
No. 3	3.5	3.5
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.80-$0.85(2)	$0.80-$0.85(2)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.125– 4.75	4.125– 4.75
No. 1 P.W.	4.1 –4.2 (2)	4.1 –4.2 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex differential territory.)		
41-43 grav. w.w.	No Price	No Price
No. 1 straw	4.3 (1)	4.3 (1)
KANSAS (For Kansas destinations only)		
41-43 grav. w.w.	No Price	No Price
42-44 gravity w.w.	4.8 –4.875 (2)	4.8 –4.875 (2)
No. 1 p.w.	4.25–4.3 (2)	4.25–4.3 (2)
No. 6 fuel	0.85-0.90(2)	$0.85-$0.90(2)

REFINERY PRICES (Continued)

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown: bids reported in market leads.

Kerosine, Gas & Fuel Oil

(Continued)

Prices in Effect	Sept. 14	Sept. 8
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only.	5.125 (1)	5.125 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6.25 – 7.75	6.25– 7.75
46 grav. w.w.	....	....
No. 1 fuel	6.25 – 7.75	6.25– 7.75
No. 2 "	6.25 – 7.625	6.25 – 7.625
No. 3 "	6.25–7.75(2)	6.25–7.75 (2)
36-40 gravity	6.25 –6.5(2)	6.25–6.5 (2)
Other districts:		
45 grav. w.w.	6.125– 7.625	6.125– 7.625
46 grav. w.w.	6.125– 6.25	6.125– 6.25
47 grav. w.w.	6.25 – 6.375	6.25 – 6.375
No. 1 fuel	5.875– 6	5.875– 6
No. 2 "	5.875– 7.125	5.875– 7.125
No. 3 "	5.875– 7.125	5.875– 7.125
36-40 grav., Pittsburgh dist. prices excluded	5.875– 7	5.875– 7
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.8 – 6	5.8 – 6
P.W. Distillate	5.5	5.5
No. 3 gas oil, Straw.	5	5
U.G.I. gas oil	4.5 (2)	4.5 (2)
Fuel Oils (Vis. at 100).		
300-500 Vis.	....	....
100-300 Vis.	4.5	4.5
OHIO (S. O. quotations for statewide delivery)		
Kerosine	7	7
CALIFORNIA		
40-43 grav. w.w.	5 – 7	4.5 – 7
San Joaquin Valley:		
Heavy fuel	$0.85 (2)	$0.85 (2)
Light fuel	$0.95 (2)	$0.95 (2)
Diesel fuel	4 (2)	4 (2)
Stove dist.	5 (1)	5 (1)
Los Angeles:		
Heavy fuel	$0.80–0.85(2)	$0.80–0.85(2)
Light fuel	$0.85–0.95(2)	$0.85–0.95(2)
Diesel fuel	3.5 – 4 (2)	3.5 – 4 (2)
Stove dist.	3 – 5 (2)	3 – 5 (2)
San Francisco:		
Heavy fuel	$0.90 (1)	$0.90 (1)
Light fuel	$1.00 (1)	$1.00 (1)
Diesel fuel	4.5 (1)	4.5 (1)
Stove dist.	5.5 (1)	5.5 (1)

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70°F.

200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.	40.5 (1)	40.5 (1)
10 p.t.	39.5 (1)	39.5 (1)
15 p.t.	38.5 (1)	38.5 (1)
25 p.t.	30–33	30–33
150 Vis. (143 at 100°) 400-465 fl.		
0 p.t.	38.5 (1)	38.5 (1)
10 p.t.	37.5 (1)	37.5 (1)
15 p.t.	36.5 (1)	36.5 (1)
25 p.t.	28–31	28–31
Cylinder Stocks		
Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.		
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25	25
600 S.R. filterable	15	15
650 S.R.	15.5	15.5
600 fl.	16	16
630 fl.	17	17

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis.	Color		
60-85	No. 2	8	8
86-110	No. 2	8.5	8.5
150	No. 3	14.5	14.5
180	No. 3	15	15
200	No. 3	15	15
250	No. 3	16–16.5	16–16.5
280	No. 3	17	17
300	No. 3	18	18

Lubricating Oils (Cont'd)

Prices in Effect	Sept. 14	Sept. 8
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15 (1)	15 (1)
280—No. 5	No Price	No Price
300—No. 5	17.5 (2)	17.5 (2)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p.; generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°		
200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23	23
10 to 25 p.p.	22.5–23	22.5–23
25 to 40 p.p.	23 (1)	23 (1)
150-160 Vis. E	22 (2)	22 (2)
120 Vis. D:		
0 to 10 p.p.	22 (2)	22 (2)
600 S.R. Dark Green	8.5 (1)	8.5 (1)
600 S.R. Olive Green	10–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	5.5 (1)	5.5 (1)

SOUTH TEXAS Neutral Oils

Vis.	Color		
Pale Oils: (*Vis. at 100° F.*)			
100	No. 1½-2½	6.5	6.5
200	No. 2-3	8.75	8.75
300	No. 2-3	9.25	9.25
500	No. 2½-3½	10	10
750	No. 3-4	10.25	10.25
1200	No. 3-4	10.375	10.375
2000	No. 4	10.5	10.5
Red Oils:			
100	No. 5-6	6.5 (2)	6.5 (2)
200	No. 5-6	8.75	8.75
300	No. 5-6	9.25	9.25
500	No. 5-6	10	10
750	No. 5-6	10.25	10.25
1200	No. 5-6	10.375	10.375
2000	No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils Vis.	Color		
60-85	No. 2	9.5 (1)	9.5 (1)
86-110	No. 2	10 (1)	10 (1)
150	No. 3	15.5 (1)	15.5 (1)
180	No. 3	16 (1)	16 (1)
200	No. 3	16 (1)	16 (1)
250	No. 3	17 (1)	17 (1)
Red Oils:			
180	No. 5	16 (1)	16 (1)
200	No. 5	16 (1)	16 (1)
250	No. 5	17 (1)	17 (1)
280	No. 5	18(1)	18 (1)
300	No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 vis. at 210 No. 8 color:		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3		
Grade 26-70	3.625 (Sale)	3.625 (Sale)
FOB BRECKENRIDGE		
Grade 26-70	3.25 (Qtns.)	3.25 (Qtns.)
CALIFORNIA (FOB plants in Los Angeles basin) 21 pound vapor pressure for blending	4.75–5.375	4.75–5.375

Naphtha and Solvent

Prices in Effect	Sept. 14	Sept. 8
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA.		
Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 (2)	7 (2)
Stoddard solvent	7.25 – 7.75	7.25 –7.75
OHIO (S. O. quotations for statewide delivery):		
V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L.)		
122-124 A.m.p.	4.25 (2)	4.25 (2)
124-126 A.m.p.	4.25	4.25
OKLAHOMA (C.L., FOB Refinery)		
Semi-refined:		
128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)		
Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.125	5.375– 6.125
Cream White	4.375– 5.375	4.375– 5.375
Light Amber	3.375– 3.875	3.375– 3.875
Amber	3.125– 3.625	3.125– 3.625
Red	3 – 3.5	3 – 3.5

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

(Cents Per Gal.)

	Gasoline Kerosine	*Distillate Fuel Oil	Gas Oil and or Residual Fuel Oil
Chicago, Ill.	2.508	2.508	2.516
Decatur, Ill.	2.244	2.244	2.442
Joliet, Ill.	2.508	2.508	2.516
Peoria, Ill.	2.310	2.310	2.442
Quincy, Ill.	2.178	2.178	2.294
Indianapolis, Ind.	2.640	3.034	3.034
Evansville, Ind.	2.442	2.886	2.886
South Bend, Ind.	3.135	3.135	3.330
Detroit, Mich.	4.290	3.996	3.996
Grand Rapids, Mich.	3.828	3.828	3.922
Saginaw, Mich.	4.290	4.144	4.144
Green Bay, Wis.	2.838	2.838	3.182
Milwaukee, Wis.	2.706	2.706	2.738
La Crosse, Wis.	2.574	2.574	2.886
Minneapolis-St. Paul	2.574	2.574	2.886
Duluth, Minn.	2.838	2.838	3.256
Mankato, Minn.	2.574	2.574	2.886
Des Moines, Ia.	2.046	2.046	2.294
Davenport, Ia.	2.310	2.310	2.442
Mason City, Ia.	2.376	2.376	2.664
St. Louis, Mo.	2.046	2.046	2.072
Kansas City, Mo.	1.518	1.518	1.776
St. Joseph, Mo.	1.518	1.518	1.776
Fargo, N. D.	3.564	3.564	3.996
Huron, S. D.	3.036	3.036	3.330
Wichita			
From Ponca City	0.528	0.528	0.592
From Tulsa	0.858	0.858	0.962
From Cushing	0.792	0.792	0.888

*Not suitable for illuminating purposes.

SEABOARD PRICES EXPORT AND COASTWISE

(NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.)

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices In Effect Sept. 14

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc. Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	9.8(1)	9.2 –10.2	9.2(1)
N. Y. Harb., barges	9.7(1	9.1 – 9.2	9.1(1)
Albany	....	9.3 – 9.5	....
Philadelphia	....	9.2 – 9.7	9.2(1)
Baltimore	....	8.95	8.85(1)
Norfolk	....	8.7 – 8.95	8.5(2)
Wilmington, N. C.	....	8.7 – 8.8	8.4–8.5(2)
Charleston	....	8.7 – 8.8	8.1–8.4(2)
Savannah	....	8.25 – 8.75	8(1)
Jacksonville	....	8.275– 8.4	8–8.275(2)
Miami	....	8.275– 8.4	7.9–8.275(2)
Tampa	....	7.5 – 8.4	8–8.275(2)
Pensacola	....	7 –7.2(1)	6.6 –6.8(1)
Mobile	....	6.87 – 7.27	6.6 –6.8(1)
New Orleans	....	6.25 – 6.75	....
Portland	....	9.5 – 9.8	....
Boston	....	9.4 – 9.7	9.7(1)
Providence	....	9.4 – 9.7	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	6.8	6.7	6.7	$1.95–2.10 (a)	$1.65
N. Y. Harb., barges	6.7	6.6	6.6	....	....
Albany	7	6.8	6.8	$2.25(1)	$1.85(1)
Philadelphia	6.9	6.7	6.7	$1.98(2)	$1.65
Baltimore	6.9	6.7	6.7	....	$1.65
Norfolk	6.8 – 6.9	6.7	6.7(1)	....	$1.65(2)
Wilmington, N. C.	6.75	6.7	....	....	....
Charleston	6.9	6.7(2)	....	....	$1.60(2)
Savannah	6.75	....	....	....	$1.60(1)
Jacksonville	6.5	6.25(2)	6.25(1)	....	$1.60(1)
Miami	6.75(2)	....	....	....	....
Tampa	6.75	6.25(2)	....	....	$1.55 (1)
Pensacola	4.8(1)	....	....	....	....
Mobile	4.5 – 4.75	....	....	....	....
New Orleans	4.25 – 4.45	3.75 –3.875(2)	....	$1.25 (1)	$0.85(1)
Portland	7	6.8	6.8(2)	$2.25 (1)	$1.65(2)
Boston	6.9	6.7	6.7(2)	$1.95 (2)	$1.65
Providence	6.9	6.7	6.7	$1.90 –$1.95	$1.65

(a) This price is for a straight-run, low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.65	$2.78	6.7–6.8(2)	6.8(2)
Albany	$1.85(1)	$2.98(1)	6.8(2)	7(1)
Philadelphia	$1.65	$2.78	....	....
Baltimore	$1.65	$2.78	6.7(1)	6.7(1)
Norfolk	$1.65	$2.78	6.7(1)	6.7(1)
Charleston	$1.60	$2.78(2)	6.7(1)	6.7(1)
Savannah	$1.60(1)	$2.62(1)	....	....
Jacksonville	$1.60(2)	$2.62(2)	....	....
Tampa	$1.55 (2)	$2.62(2)	....	....
New Orleans	$0.85	$1.55(2)	3.75(1)	3.75(1)
Portland	$1.65(2)	$2.86(2)	6.6(1)	6.9(1)
Boston	$1.65	$2.78	6.7(2)	6.8(2)
Providence	$1.65	$2.78(2)	6.7(1)	6.8(1)

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery and do not include bag, freight or export differentials).

Prices in Effect Sept. 14

Crude Scale:	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.25(1)	....	4.25 (1)
122-4 White	....	4.25(2)	4.25(2)
124-6 White	4.25 (1)	4.25	4.25
Fully Refined:			
123-5	5.2 (1)	5.2 (2)	5.2 (1)
125-7	5.2 (1)	5.2 (2)	5.2 (1)
128-30	5.6 (1)	5.6	5.6 (1)
130-32	5.85 (1)	5.85 (2)	5.85 (1)
133-5	6.15 (1)	6.15	6.15 (1)
135-7	6.4 (1)	6.4 (1)	6.4 (1)

Naphtha

Prices in Effect Sept. 14

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	11 (2)	10
Philadelphia district	11 (2)	10
Baltimore	10.5 (2)	9.5
Boston	11.5 (2)	10.5
Providence	11.5 (1)	10.5 (2)

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices In Effect	Sept. 14	Sept. 8
375 e.p. blend, 70 oct.	No Price	No Price
390 e.p. blend, 68 oct.	No Price	No Price
390 e.p. blend, 66 oct.	No Price	No Price
400 e.p. blend, 65 oct. min.	No Price	No Price
U. S. Motor, under 65 octane	No Price	No Price
38-40 grav., w.w. kero., 150 fire point	No Price	No Price
41-43 grav., w.w. kero.	No Price	No Price
44-grav. w.w. kero.	No Price	No Price
Diesel fuel, 24 & above	No Price	No Price
Diesel fuel, under 24	No Price	No Price
30-34 grav. diesel (gas oil) Pac. Spec. 200	No Price	No Price
Grade C fuel, Pac. Spec. 400	No Price	No Price
In Ship's Bunkers, or deep tank lots:		
Diesel fuel, Pac. Spec. 200	$1.40 –$1.45	$1.40 –$1.45
Grade C fuel, Pac. Spec. 400	$0.825–$0.85	$0.825–$0.85
Cased Goods: (Per case)		
375-400 e.p. blend, 65 oct. & above	No Price	No Price
400 e.p. blend, under 65 oct	No Price	No Price
U. S. Motor	No Price	No Price
40-43 grav. w.w. kero., 150 fire point	No Price	No Price
Kero., p.w.	No Price	No Price

Tanker Rates

(Approximate last paid rates, cents per bbl.; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	48
Light Crude, (30 grav. or Lighter)	43
Gasoline	40
Kerosine	40
No. 2 Fuel	42

Note: 200% surcharge permitted on above rates by War Shipping Administration "to cover increased wartime operating expenses."

Gulf Coast

(Prices for sales made or firm offers reliably reported for sales pending in cargoes FOB ship at Gulf, for minimum of 20,000 bbls. Prices are by refiners only to other refiners, export agents, or to large tanker terminal operators at the customary trade specifications noted.)

Prices In Effect Sept. 14

Domestic

Motor Gasoline	
Min. 80 oct. '39 Research, max. 2cc lead	5.5
60-62 Gravity, Max. 400 e.p	
72-74 oct. leaded (ASTM)	5.25 – 6
70 oct. unleaded " "	5.25 – 5.75
68 oct. " "	5.25 – 5.5
65 oct. " "	5.25 – 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875– 4.375
No. 2 fuel	3.75
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25
Diesel Oil, ship's bunkers (ex-lighterage)	$1.55–$1.68
Bunker C, " " "	$0.85 –$0.90
Bunker C, cargoes	$0.85

Export

Motor Gasoline	
60-62 Gravity, Max. 400 e.p.	
72-74 oct. leaded (ASTM)	5.25 – 6
70 oct. unleaded " "	5.25 – 5.75
68 oct. " "	5.25 – 5.5
65 oct. " "	5.25 – 5.75
60 oct. " "	5
41-43 w.w. kerosine	3.875– 4.375
Gas Oil—Less than ½ of 1% sulfur.	
Below 43 diesel index	4
43-47 " "	4
48-52 " "	4
53-57 " "	4.125
58 & above diesel index	4.25

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

Prices in Effect Sept. 14

	Steel Drums	Bulk
200 vis. D 210 brt. stock	34-35 (2)	28.8 (2)
150 vis. D 210 brt. stock 0-10 p.p.	30-31 (2)	24.8 (2)
10-25 p.p.	29.5 (1)	24.3 (1)
100 vis. D 210 brt. stock 0-10 p.p.	29.5 (1)	24.3 (1)
10-25 p.p.	29 (1)	23.8 (1)
200 vis, No. 3 col. neutral: 0-10 p.p.	22 (1)	16.8 (1)

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Sept. 14, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
*Atlantic City, N. J.	10.2	10.7	4.5	9.4
*Newark, N. J.	10.2	10.7	4.5	9.4
Annapolis, Md.	10.55	11.05	5.5	11.2
Baltimore, Md.	9.95	10.45	5.5	10.2
Cumberland, Md.	11.35	11.85	5.5	11.7
Washington, D. C.	10.2	10.7	4.5	10.7
Danville, Va.	11.65	12.15	6.5	11.95
Norfolk, Va.	10.45	10.95	6.5	11.7
Petersburg, Va.	10.75	11.25	6.5	12.7
Richmond, Va.	10.75	11.25	6.5	12.7
Roanoke, Va.	11.95	12.45	6.5	12.2
Charleston, W. Va.	12.25	12.75	6.5	13
Parkersburg, W. Va.	11.55	12.05	6.5	12.7
Wheeling, W. Va.	11.55	12.05	6.5	13.3
Charlotte, N. C.	12.1	12.6	7.5	11
Hickory, N. C.	12.65	13.15	7.5	12
Mt. Airy, N. C.	12.5	13.0	7.5	11.2
Raleigh, N. C.	11.85	12.35	7.5	12
Salisbury, N. C.	12.15	12.65	7.5	12.4
Charleston, S. C.	10.95	11.45	7.5	....
Columbia, S. C.	11.8	12.3	7.5	....
Spartanburg, S. C.	12.5	13.0	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	13	14.5
Baltimore, Md.	15.5	....
Washington, D. C.	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	9.4	8.7	8.7
Newark	9.4	8.7	8.7
Annapolis, Md.	....	8.95	....
Baltimore	9.2	8.7	8.7
Washington, D. C.	9.7	9.1	9.1
Norfolk, Va.	9.4	8.5	8.5
Petersburg	9.7	8.7	....
Richmond	9.7	8.7	8.7
Charlotte, N. C.	10	10.1	....
Hickory, N. C.	....	9.7	....
Raleigh	11	9.8	....
Charleston, S. C.	....	8.7	....
Columbia	....	9.7	....
Spartanburg	....	10.5	....

*Effective Aug. 5, '42 minimum retail resale price of 14.2c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

	Com. Cons. T.W.	Undiv. Dlr. T.W.	Gaso-line Taxes
New York City			
Manhattan & Bronx	10.1	10.6	*5.5
Kings & Queens	10.1	10.6	*5.5
Richmond	9.7	10.2	*5.5
Albany, N. Y.	9.9	10.4	5.5
Binghamton, N. Y.	11	11.5	5.5
Buffalo	10.2	10.7	5.5
Jamestown, N. Y.	10.4	10.9	5.5
Mt. Vernon, N. Y.	10.1	10.6	5.5
Plattsburg, N. Y.	11	11.5	5.5
Rochester, N. Y.	10.8	11.3	5.5
Syracuse, N. Y.	10.5	11	5.5
Bridgeport, Conn.	10	10.5	4.5
Danbury, Conn.	10.5	11	4.5
Hartford, Conn.	10.6	11.1	4.5
New Haven, Conn.	10	10.5	4.5
Bangor, Me.	10.7	11.2	5.5
Portland, Me.	10.3	10.8	5.5
Boston, Mass.	9.9	10.4	4.5
Concord, N. H.	11.4	11.9	5.5
Lancaster, N. H.	12	12.5	5.5
Manchester, N. H.	11.3	11.8	5.5
Providence, R. I.	10	10.5	4.5
Burlington, Vt.	10.9	11.4	5.5
Rutland, Vt.	11	11.5	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	12.4	13.6
New York City	11	12
Rochester, N. Y.	13.2	14.4
Syracuse, N. Y.	14	....
Boston, Mass.	12	13
Bridgeport, Conn.	†16.3	†17.3
Hartford, Conn.	†16.3	†17.3
Providence, R. I.	13	14

	Kero-sine Yard	Kero-sine TW	Mobil-fuel Diesel TC	Mobil-fuel Diesel TW	Mobil-heat Fuel Yard	Mobil-heat Fuel TW
New York:						
Manhat'n & Bronx	7.1	9.5	....	9	7	8.7
Kings & Queens	7.1	9.5	....	9	7	8.7
Richmond	7	9.5	....	....	6.9	8.5
Albany	7.2	9.2	7	9	7	8.7
Binghamton	8.6	10.6	....	10.4	8.4	9.9
Buffalo	8.3	10.3	8	10	8.2	9.7
Jamestown	8.4	10.4	....	10.3	8.3	9.7
Mt. Vernon	7.2	9.7	....	9.1	7.1	8.7
Plattsburg	7.8	9.8	....	9.6	7.6	9.1
Rochester	8.4	10.4	7.9	9.9	7.9	9.4
Syracuse	8.2	10.2	7.8	9.8	7.8	9.3
Conn.:						
Bridgeport	7.3	9.3	....	....	7.2	8.5
Danbury	7.8	9.8	....	....	7.5	8.5
Hartford	7.4	9.4	....	9.2	7.2	8.7
New Haven	7.1	9.1	....	9	7	8.6
Maine:						
Bangor	7.6	9.6	7.4	9.4	7.4	8.8
Portland	7.2	9.6	7	9	7	8.7
Mass.:						
Boston	7.3	9.5	6.9	8.9	7.1	8.7
N. H.:						
Concord	8.1	10.1	....	....	8.2	9.7
Lancaster	9.2	11.2	....	....	9.2	10.7
Manchester	8.2	10.5	....	....	7.9	9.4
R. I.:						
Providence	7.3	9.3	6.9	8.9	7.1	8.6
Vermont:						
Burlington	7.8	9.8	7.5	9.5	7.5	8.9
Rutland	8	10	....	9.7	7.7	9.2

*Does not include 1% city sales tax appucable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commer-cial T.W.	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa.	10.2	10.7	5.5	11.65
Pittsburgh	10.7	11.2	5.5	12
Allentown	10.7	11.2	5.5	12
Erie	10.7	11.2	5.5	12
Scranton	10.7	11.2	5.5	12
Altoona	10.7	11.2	5.5	12
Emporium	10.7	11.2	5.5	12
Indiana	10.7	11.2	5.5	12
Uniontown	10.7	11.2	5.5	12
Harrisburg	10.7	11.2	5.5	12
Williamsport	10.7	11.2	5.5	12
Dover, Del.	....	11.2	5.5	12
Wilmington, Del.	....	10.7	5.5	11.5
Boston, Mass.	....	10.9	4.5	9.5
Springfield, Mass.	....	11.8	4.5	10.4
Worcester, Mass.	....	11.5	4.5	10
Fall River, Mass.	....	11	4.5	10.1
Hartford, Conn.	....	11.6	4.5	9.4
New Haven, Conn.	....	11	4.5	10.5
Providence, R. I.	....	11	4.5	10.1
Atlantic City, N. J.	....	10.7	4.5	9.4
Camden, N. J.	....	10.7	4.5	9.4
Trenton, N. J.	....	10.7	4.5	9.4
Annapolis, Md.	....	11.05	5.5	10.2
Baltimore, Md.	....	10.45	5.5	9.2
Hagerstown, Md.	....	11.55	5.5	9.7
Richmond, Va.	....	11.25	6.5	11.7
Wilmington, N. C.	....	11.55	7.5	11.3
Brunswick, Ga.	....	10.4	7.5	*10.5
Jacksonville, Fla.	....	10.4	8.5	11.5

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	11	12.5
Lancaster, Pa.	12	13.5
Pittsburgh, Pa.	12.5	13.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa.	9.5	8.7	8.7	5.46	4.46
Allentown, Pa.	10	9	9	....	....
Wilmington, Del.	9.5	8.7	8.7	....	....
Springfield, Mass.	10.4	9.1	9.1	....	....
Worcester, Mass.	10	9	9	....	....
Hartford, Conn.	9.4	8.7	8.7	....	....

*Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Con-sumer T.W.	**Re-sellers	‡S.S.	Gaso-line Taxes	†Kero-sine T.W.
Ohio, Statewide	12	10	13.5	5.5	9
Akron	12	9.5	12.5	5.5	9
Cincinnati	12	9.5	12.5	5.5	9
Cleveland	12	9.5	12.5	5.5	9
Columbus	12	9.5	12.5	5.5	9
Dayton	12	9.5	12.5	5.5	9
Marietta	12	9.5	12.5	5.5	9
Portsmouth	12	9.5	12.5	5.5	9
Toledo	12	9.5	12.5	5.5	9
Youngstown	12	9.5	12.5	5.5	9

Aviation Gasoline—Statewide	Consumer T.W.	Gasoline Taxes
Sohio aviation grade 65 octane, Spec. AN-VV-F-756	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

†Naphtha—T.W.	Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8	8	7.5	....
Cleveland	10	10	9.5	7.25

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price; 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Dealer Crown	Standard	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky.	9.5	8.5	6.5	9
Lexington, Ky.	10.5	8.5	6.5	9
Louisville, Ky.	10	9	6.5	8.5
Paducah, Ky.	9	8	6.5	8.5
Jackson, Miss.	10	9	7.5	*8.5
Vicksburg, Miss.	9.5	8.5	7.5	*8
Birmingham, Ala.	10	9	*8.5	9
Mobile, Ala.	9	7	*9.5	8.5
Montgomery, Ala.	10	9	*9.5	*9
Atlanta, Ga.	11.4	....	7.5	*10.5
Augusta, Ga.	11.4	....	7.5	*10
Macon, Ga.	11.4	....	7.5	*10.5
Savannah, Ga.	10.4	....	7.5	*9.5
Jacksonville, Fla.	10.4	....	8.5	9.5
Miami, Fla.	10.4	....	8.5	9.5
Pensacola, Fla.	9	8	*9.5	8
Tampa, Fla.	10.4	....	8.5	9.5

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

	Dealer Prices				
	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill.	10.9	8.9	8.4	4.5	10.3
Decatur, Ill.	9.1	8.5	8	4.5	9.5
Joliet, Ill.	11.9	9.6	8.5	4.5	10.3

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:

Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.

Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes:** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes: also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Sept. 14, 1942 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)
Dealer Prices

	Red Crown Cons. T.W.	Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Peoria, Ill	10.7	9.2	9.1	4.5	10.1
Quincy, Ill	8.9	7.9	7.9	4.5	10
Indianapolis, Ind	11.6	9.7	9.6	5.5	*9.8
Evansville, Ind	11.4	9.9	7.9	5.5	*9.6
South Bend, Ind	12	10.5	10	5.5	*10.2
Detroit, Mich	11.4	9.9	9.4	4.5	9.6
Grand Rapids, Mich	10.1	8.6	8.1	4.5	9.6
Saginaw, Mich	11.4	9.9	9.4	4.5	9.6
Green Bay, Wis	12.2	10.7	9.7	5.5	10.6
Milwaukee, Wis	12.1	10.6	10.1	5.5	10.5
La Crosse, Wis	11.9	10.4	9.9	5.5	10.3
Minneapolis-St. Paul	11.9	9.9	9.5	5.5	10.3
Duluth, Minn	12.2	10.7	10.2	5.5	10.6
Mankato, Minn	11.9	10.4	9.5	5.5	10.3
Des Moines, Ia	11.4	9.9	9.4	4.5	*9.8
Davenport, Ia	11.7	10.2	9.7	4.5	*10.1
Mason City, Ia	11.7	10.2	9.7	4.5	*10.1
St. Louis, Mo	10.3	8.8	8.6	*4.5	9.8
Kansas City, Mo	10.4	8.9	7.9	*4.5	9.4
St. Joseph, Mo	9	9	8	*4.5	9.4
Fargo, N. D	12.9	11.4	10.5	5.5	11.3
Huron, S. D	12.3	10.8	10.3	5.5	10.7
Wichita, Kans	10.3	8.2	6.5	4.5	8

Stanavo Aviation 73 Octane

Chicago, Ill	15.7	4.5
Milwaukee, Wis	15.9	5.5
Minneapolis, Minn	15.7	5.5
St. Louis, Mo	15.2	*4.5
Kansas City, Mo	14.8	*4.5
Fargo, N. D	16.7	5.5
Huron, S. D	16.1	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo	13.3	14.3	13.8	1.5
St. Louis, Mo	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'ls	14.2	15.2	13.5	5.5

Fuel Oils T.W.
Chicago

	Standard	Heater Oil
1-99 gals		9
100-149 gals		8
150 gals. & over		7.5

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals	8.5	8.5
100-149 gals	7.5	7.5
150-399 gals	7.5	7.5
400 gals. & over	7	7

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals	8	8
100-399 gals	7	7
400-749 gals	6	6
750 gals. & over	5.25	5.25

	Stanolex Bunker C Fuel Oil
1-399 gals	6.5
400-999 gals	5.5
1000 gals. & over	4.5

Other Points Indianapolis	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals	....	*8.7
100 gals. & over	....	*7.7
Detroit		
1-99 gals	....	7.8
100 gals. & over	....	6.8
Milwaukee		
1-99 gals	....	8.7
100 gals. & over	....	7.7
Minneapolis		
1-99 gals	....	8.5
100 gals. & over	....	7.5
St. Louis		
1-99 gals	8.3	7.8
100 gals. & over	7.3	6.8
Kansas City		
1-99 gals	....	7.6
100 gals. & over	....	6.6

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

S. O. Nebraska

(*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4 8.9	6.5	9.8
McCook	10.5 9.4	6.5	9
Norfolk	11.9 10.4	6.5	10.3
North Platte	11 9.9	6.5	10
Scottsbluff	12.4 9.5	6.5	9.5

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
New Orleans, La	8.75	9.25	8.5	*9
Baton Rouge, La	8.75	9.25	8.5	*9.5
Alexandria, La	8.75	9.25	8.5	*9.5
Lafayette, La	9	9.5	8.5	*9
Lake Charles, La	9	9.5	8.5	*11
Shreveport, La	8.5	9	8.5	*8
Knoxville, Tenn	9.5	10	8.5	12.5
Memphis, Tenn	7.90	8.40	8.5	10.5
Chattanooga, Tenn	10.5	11	8.5	11
Nashville, Tenn	10.5	11	8.5	10
Bristol, Tenn	10.95	11.45	8.5	13.1
Little Rock, Ark	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Retail	Thriftane *Tank Wagon	Thriftane Retail	Gasoline Taxes
Dallas, Tex	7.5†	7.5	6.5††	6.5	5.5
Ft. Worth, Tex	8.5††	10.5	7.5‡	9	5.5
Houston, Tex	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Kerosine Retail
Dallas, Tex	7	11
Ft. Worth, Tex	7	11
Houston, Tex	8	11
San Antonio, Tex		10

	74 Oct. Aviation Gasoline, Clear	Tank Car
FOB Baytown, Tex		8.5

*To all classes of dealers & consumers.
‡Less 1½c allowance to dealers only.
††Less 2c allowance to dealers only.
†Less 2½c allowance to dealers only.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex	6.5‡	5.5†	5.5
Ft. Worth, Tex	8.5†	7.5**	5.5
Wichita Falls, Tex	8.5	7.5	5.5
Amarillo, Tex	8.5	7.5	5.5
Tyler, Tex	8.5*	7.5*	5.5
El Paso, Tex	9.5	8.5	5.5
San Angelo, Tex	8.5	7.5	5.5
Waco, Tex	8*	7*	5.5
Austin, Tex	8.5	7.5	5.5
Houston, Tex	8.5	7.5	5.5
San Antonio, Tex	8.5	7.5	5.5
Port Arthur, Tex	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.
**Less 1.5c temporary allowance to all dealers.
†Less 2c temporary allowance to all dealers.
‡Less 2½c temporary allowance to all dealers.

Continental Oil Co.

(N.B. Prices are Continental's "structural" prices. Prices do not reflect temporary reductions made to meet local competition).

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col	11	10	5.5	11
Grand Junction, Col	12	11	5.5	12
Pueblo, Col	10.5	9.5	5.5	10.5
Casper, Wyo	11.5	10.5	5.5	12
Cheyenne, Wyo	11	10	5.5	11.5
Billings, Mont	12.5	11.5	6.5	12.5
Butte, Mont	13.5	12.5	6.5	13.5
Great Falls, Mont	12.5	11.5	6.5	12.5
Helena, Mont	13	12	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida	14.1	13.1	6.5	16.5
Twin Falls, Ida	15.6	14.6	6.5	17
Albuquerque, N. M	10.5	9.5	*7	10
Roswell, N. M	10	9	*7	9.5
Santa Fe, N. M	10.5	9.5	*7.5	10
Ft. Smith, Ark	9.5	9.25	*7	9.5
Texarkana, Ark	9	8	*5.5	9
Muskogee, Okla	9.5	8.5	7	8.5
Oklahoma City, Okla.	9.5	8.5	7	8.5
Tulsa, Okla	9.5	8.5	7	8.5

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.
†To consumers & dealers.

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
San Francisco, Cal	10	14	9	12	4.5
Los Angeles, Cal	9.5	13.5	8.5	11.5	4.5
Fresno, Cal	11	15	10	13	4.5
Phoenix, Ariz	12	16	10	13	6.5
Reno, Nev	12	16	11	14	5.5
Portland, Ore	10.5	14.5	9.5	12.5	6.5
Seattle, Wash	10.5	14.5	9.5	12.5	6.5
Spokane, Wash	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal	12.5	4.5	11.5
Los Angeles, Cal	12	4.5	10
Fresno, Cal	13.5	4.5	12.5
Phoenix, Ariz	14.5	6.5	12.5
Reno, Nev	14.5	5.5	13.5
Portland, Ore	13	6.5	13.5
Seattle, Wash	13	6.5	13.5
Spokane, Wash	16	6.5	16.5
Tacoma, Wash	13	6.5	13.5

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.
Commercial: Retail deliveries, and/or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

Canada

PRICES ON IMPERIAL OIL, LTD.

‡ Per Imperial Gallon, which is 1.2 U. S. †Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kerosine T.W.
Hamilton, Ont	17.5	11	18
Toronto, Ont	17.5	11	18
Brandon, Man	21	10	23
Winnipeg, Man	20.5	10	22.5
Regina, Sask	18	10	20
Saskatoon, Sask	20.8	10	22.8
Edmonton, Alta	18.9	10	20.9
Calgary, Alta	16	10	18
Vancouver, B. C	15	10	24
Montreal, Que	17	11	17.5
St. John, N. B	16.5	13	19
Halifax, N. S	16.5	13	19

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

Tank Wagon Price Changes
(These changes have been made in price tables)

S. O. Indiana—Red Crown Gasoline:
Correction—
Due to typographical error, South Bend dealer price has been incorrectly shown as 10.2c since Aug. 12.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified, per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown

EASTERN & CENTRAL STATES FIELDS

PENNSYLVANIA GRADE

Posted by Jos. Seep Purch. Agency (Mar. 26, '42)

Bradford-Allegany $3.00
Southwest Penna. $2.65
Eureka (West Va.) $2.59
Corning, O. (May 27, '41) $1.31

Posted by The Pennzoil Co. (Mar. 26, '41)

National Transit $2.93*

Posted by Valvoline Pipe Lines (Mar. 26, '42)

Bradford (Elk & McKean Counties, (Pa.) $3.00
Warren, Forest, Venango, Clarion & Butler Counties, Pa. $2.93
Alleghany, Beaver, Washington & Greene Counties, Pa. $2.65
West Virginia $2.59
Southeastern Ohio $2.55

*Applies to Cochran, Franklin, Hamilton & Doolittle districts; prices in other lower districts range down to $2.88 per bbl. at well.

MICHIGAN

Posted by Pure Oil Co. (May 27, '41)

Midland, Midland County $1.44
Sherman $1.39

Posted by Simrall Corp. (May 27, '41)

Greendale, Porter, Vernon, Crystal & Wise $1.44
Buckeye, Bentley, Edenville, Beaverton & Monitor (sweet crude type) $1.42
Freeman, Redding, Lincoln & Winterfield $1.39
West Branch-Arenac $1.24
Hamilton-Grout $1.29

Posted by Sohio Corp. (Mich. Div.)

Traverse crude in Allegan, Kent, Ottawa & Van Buren Cos. (June 2, '41) $1.45
Trenton crude, Monroe Co. (June 2, '41) $1.39

Posted by Bay Pipe Line Corp. (May 27, '41)

Saginaw & Wise $1.44
Buckeye, Bentley & Kawkawlin $1.42
Clare $1.11
Adams (June 1, '41) $1.27

ILLINOIS-INDIANA-KENTUCKY-OHIO

Posted by Sohio Corp. (May 21, '41)

Illinois Basin, including Griffin pool $1.37
Carmi, Storms, Ill. area $1.32
Birk City, Ky. area $1.32
Corydon, Ky. area, Henderson $1.32

Posted by Ohio Oil Co. (May 21, '41)

Illinois Basin $1.37
Eastern Ill. & Western Ind. $1.22

Posted by Carter Oil Co. (May 21, '41)

Loudon, Fayette Co. Ill. $1.37

Posted by Mohawk Oil Lines, Inc. (May 21, '41)

Southern Illinois $1.37

Posted by Ashland Oil & Transp. Co.

Somerset oil in Ash. Lines, Ky.: (June 19, '41)

Big Sandy River $1.38
Kentucky River $1.43

Posted by Ownesboro-Ashland Co.

Owensboro, Ky. area (May 21, '41) $1.32

Posted by S. O. Ohio (Sept. 1, '41)

Lima, Ohio $1.25
Cleveland, Lodi & Chatham (O). areas $1.30

MID-CONTINENT

OKLAHOMA-KANSAS-NORTH TEXAS

(See below for companies posting and dates)

Gravity	Schedule No. 1	Schedule No. 2	Schedule No. 3
Below 21	$0.85	$0.75	$0.81
21-21.9	.87	.78	.83
22-22.9	.89	.81	.85
23-23.9	.91	.84	.87
24-24.9	.93	.87	.89
25-25.9	.95	.90	.91
26-26.9	.97	.93	.93
27-27.9	.99	.96	.95
28-28.9	1.01	.99	.97
29-29.9	1.03	1.02	.99
30-30.9	1.05	1.05	1.01
31-31.9	1.07	1.07	1.03
32-32.9	1.09	1.09	1.05
33-33.9	1.11	1.11	1.07
34-34.9	1.13	1.13	1.09
35-35.9	1.15	1.15	1.11
36-36.9	1.17	1.17	1.13
37-37.9	1.19	1.19	1.15
38-38.9	1.21	1.21	1.17
39-39.9	1.23	1.23	1.19
40 & above	1.25	1.25	1.21

Above schedules posted by:

No. 1: **S. O. Indiana** May 20, '41 in Okla. & Kans. **Sinclair-Prairie** May 20, '41 in Okla. & Kans. beginning with 25-25.9. **Continental** May 19, '41 in Okla. & Kans. beginning with Below 29 at $1.01. **Texaco** May 19, in Okla. & Kans. beginning with 28-28.9.

No. 2: **Carter** May 20, '41 in Okla. **Shell** Dec. 5, '41 in Okla. & Kans. **Magnolia** May 21, '41 in Okla.

No. 3: All Dec. 11, '41: **Stanolind & Continental** in N. Tex. **Sinclair-Prairie** in N. Central Tex. **Magnolia & Texaco** in N. & N. Central Tex. **Continental, Magnolia & Sinclair-Prairie** schedules begin with Below 29 at $0.97. **Texaco** schedule begins with 28-28.9.

TEXAS & NEW MEXICO FIELDS

Posted by Humble Oil & Refining Co.

(May 21, '41, except Panhandle, Tex. July, 9 '41 and W. Central Texas Dec. 11, '41)

Gravity	Refugio	Texas Gulf Coast	Miran-do	Ana-huac	Dick-inson	East Central Texas	West Central Texas	Pan-handle, Texas	W. Texas & New Mex.	Hawkins Texas
Below 20	$1.08	$1.06	$1.03	$0.98	$0.93	....	....	$0.73	$0.70	$0.80
20-20.9	1.10	1.08	1.05	1.00	.95	....	....	.75	.72	.82
21-21.9	1.12	1.10	1.07	1.02	.97	....	....	.77	.74	.84
22-22.9	1.14	1.12	1.09	1.04	.99	....	....	.79	.76	.86
23-23.9	1.16	1.14	1.11	1.06	1.01	....	....	.81	.78	.88
24-24.9	1.18	1.16	1.13	1.08	1.03	....	....	.83	.80	.90
25 & above	....	....	....	....	....	....	....	....	....	.92
25-25.9	1.20	1.18	1.15	1.10	1.05	$0.97	$0.91	.85	.82	....
26-26.9	1.22	1.20	1.17	1.12	1.07	.99	.93	.87	.84	....
27-27.9	1.24	1.22	1.19	1.14	1.09	1.01	.95	.89	.86	....
28-28.9	1.26	1.24	1.21	1.16	1.11	1.03	.97	.91	.88	....
29-29.9	1.28	1.26	1.23	1.18	1.13	1.05	.99	.93	.90	....
30-30.9	1.30	1.28	1.25	1.20	1.15	1.07	1.01	.95	.92	....
31-31.9	1.32	1.30	1.27	1.22	1.17	1.09	1.03	.97	.94	....
32-32.9	1.34	1.32	1.29	1.24	1.19	1.11	1.05	.99	.96	....
33-33.9	1.36	1.34	1.31	1.26	1.21	1.13	1.07	1.01	.98	....
34-34.9	1.38	1.36	1.33	1.28	1.23	1.15	1.09	1.03	1.00	....
35-35.9	1.40	1.38	1.35	1.30	1.25	1.17	1.11	1.05	1.02	....
36-36.9	1.42	1.40	1.37	1.32	1.27	1.19	1.13	1.07	1.04	....
37-37.9	1.44	1.42	1.39	1.34	1.29	1.21	1.15	1.09	1.06	....
38-38.9	1.46	1.44	1.41	1.36	1.31	1.23	1.17	1.11	1.08	....
39-39.9	1.48	1.46	1.43	1.38	1.33	1.25	1.19	1.13	1.10	....
40 & above	1.50	1.48	1.45	1.40	1.35	1.27	1.21	1.15	1.12	....

Refugio: Includes crude purchased in East White Point, Greta, Melon Creek, O'Connor-McFaddin, Plymouth, Saxet, Taft, & Tom O'Connor fields.

Texas Gulf Coast: Includes crude purchased in Amelia, Clear Lake, Goose Creek, Hastings, Magnet, Mykawa, Mykawa New, Raccoon Bend, South Thompsons, Sugarland, Thompsons, & Webster fields.

Mirando: Includes crude purchased in Blanchard, Bridwell, Colorado, Comitas, Eagle Hill, Escobas, Fitzsimmons, Glen, Government Wells (North & South), Heyser, Hoffman, Kelsey, Kohler, Loma Novia, Lundell, Manilla, Mirando Valley, Placedo, Randado, Sarnosa, & Tesoro fields.

Anahuac: Includes crude purchased in Anahuac, Angleton, Cedar Point, Fishers' Reef, Hull, (Old & New), Pierce Junction, Red Fish Reef, & Turtle Bay fields.

Dickinson: Includes crude purchased in Dickinson, Gillock, Hardin, League City, & Rowan fields.

East Central Texas: Includes crude purchased in Anderson, Cherokee, Limestone, & Navarro Counties, and Navarro Crossing field.

West Central Texas: Includes crude purchased in Brown, Callahan, Comanche, Eastland, Fisher, Haskell, Jones, Shackelford, Stephens, & Throckmorton Counties.

Panhandle, Texas: Includes crude purchased in Carson, Gray, Hutchinson & Wheeler Counties.

West Texas & New Mexico: Includes crude purchased in Andrews, Crane, Crockett, Ector, Gaines, Glasscock, Howard, Reagan, Upton, Winkler, & Yoakum Counties, Texas; Lea County, N. M.

Hawkins: Includes crude purchased in Hawkins Field, Wood County, Texas.

Conroe $1.43
Tomball 1.40
Van 1.08
Talco 0.79
East Texas & Flag Lake $1.25
Flour Bluff, E. Flour Bluff 1.33
Salt Flat, N. Salt Flat 1.14
Darst Creek, Hilbig, Carroll 1.14
Clark, Zoboroski $1.14
Alice, Benavides (N. Sweden), Sun 1.35
Ben Bolt, Clark-Muil, Tom Graham 1.35
Yates (Pecos) 0.95
La Rosa 1.33

MAGNOLIA PETROLEUM CO.

(May 21, '41)

Panhandle, Tex.—(July 9, '41)—Same as Humble except Magnolia begins with below 29 at $0.91.

West Texas—In Crane, Upton, Howard, Glasscock, Mitchell, Winkler, Cochran, Hockley, Yoakum & Gaines Cos., and in Pecos & Andrews Cos. beginning Apr. 1, '42—Same as Humble except Magnolia begins with Below 25 at $0.80.

N. Mexico—In Lea Co.—Same as Humble except Magnolia begins with Below 25 at $0.88 & ends with 36 & above at $1.04.

Cass & Panola Cos., Tex.—Below 25 at $0.88, plus 2c per degree of gravity to 40 & above at $1.20.

Mirando, Tex.—Same as Humble.

East Texas $1.25
Darst Creek 1.14
Luling 1.05
Talco ..... .79
Lytton Springs $1.17
Cleveland-Liberty Co. 1.26
Tomball 1.40

SINCLAIR-PRAIRIE OIL MARKETING CO.

Texas Panhandle—(May 23, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.83.

West Texas & New Mexico—(May 30, '41)—Same as Humble except Sinclair-Prairie begins with Below 25 at $0.80.

Texas Gulf Coast—(May 21, '41)—Same as Humble.

Mexia District, Texas—(May 30, '41)—Same as Humble, East Central Texas, except Sinclair-Prairie also posts Below 25 at $0.95.

East Texas—(May 21, '41) $1.25

Long Lake, Texas—(May 21, '41) $1.23

Chapel Hill (Washington Co.) Tex.:

Below 50 grav. (Jan 20, '42) $1.18
50 grav. & above (Feb. 2, '42) $1.25

STANOLIND OIL PURCHASING CO.

(May 21, '41)

Clinton, Tex.—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

Fairbanks, N. Houston & Rosslyn, Tex.—Same as Humble Dickinson schedule.

Lake Creek, Tex.—(Apr. 9, '42)—Same as Humble Tex. Gulf Coast except Stanolind begins with Below 21 at $1.08.

E. Texas $1.25
Satsuma & Tomball, Tex $1.40
Eureka Heights (Harris Co.)—Aug. 1, '42 ..... $1.15

STANOLIND OIL & GAS CO.

(May 21, '41)

W. Beaumont & Spindletop (Jefferson Co., Tex.) **& Highland Island** (Galveston Co., Tex.)—Same as Humble Tex. Gulf Coast.

Hendrick & Henderson (Winkler Co., Tex.)—Same as Humble West Texas except Stanolind begins with Below 26 at $0.82.

Jay Welder (Calhoun Co., Tex.)—Nov. 14, '41—Same as Humble Anahuac.

Spencer & Pyote (Ward Co., Tex.)—June 8, '42—Same as Humble W. Texas.

Magnolia Sealey South (Ward Co., Tex.)—June 8, '42—Same as Humble W. Texas except Stanolind ends with 36 & above at $1.04.

THE TEXAS CO.

(May 21 '41)

Panhandle, Tex.—Same as Humble except Texaco begins with 34-34.9 at $1.03.

W. Texas & Lea Co., N. M.—Same as Humble except Texaco posts $0.78 for 23.9 & below and ends with 36 & above at $1.04.

Texas Gulf Coast—Same as Humble except Texaco ends with 34 & above at $1.36.

Duval, Mirando, Tex.—Same as Humble Mirando except Texaco ends with 28-28.9 at $1.21.

Refugio, Tex.—Same as Humble except Texaco ends with 28-28.9 at $1.26.

East Texas $1.25
Darst Creek, Tex. $1.14
Conroe, Tex. $1.43
Hockley & Cochran Cos., Tex ..... .87

SHELL OIL CO., INC.

(May 20, '41)

West Texas & Lea Co., N. M.—Same as Humble except Shell ends with 36 & above at $1.04.

Fisher Co., Tex.—(Dec. 11, '41)—Same as Humble W. Central Texas except Shell begins with Below 25 at $0.89.

East Texas $1.25
Livingston field, Polk Co., Tex. $1.25
Pecos Co., Texas, (except Yates Shallow Pool) ..... .95
Pecos Co., Tex., Yates Shallow Pool ..... .82
Mercy field, San Jacinto Co., Tex. (Feb. 27, '42) 1.25

CONTINENTAL OIL CO.

Carson & Hutchinson Cos., Tex.—(July 9, '41)—Same as Humble Panhandle except Continental begins with Below 29 at $0.91.

Mirando, Tex.—(July 1, '41—Same as Humble.

Wade City & Clara Driscoll, Tex.—(July 1, '41)—Same as Humble Refugio.

Alfred & Magnolia City, Tex.—(May 21, '41), $1.35

Eddy Co., N.M.—(May 30, '41)—Same as Humble N. M. schedule except Continental begins with Below 29 at $0.88.

PAN AMERICAN PRODUCTION CO.

(May 21, '41)

Hastings & S. Houston, Tex.—Same as Humble Tex. Gulf Coast except Pan Am. begins with Below 21 at $1.08.

Gillock, Tex.—Same as Humble Dickinson except Pan Am. begins with Below 21 at $0.95.

East Texas $1.25
Cayuga, Tex. ..... .90
Goodrich, Tex. (Dec. 1, '41) 1.20

CRUDE OIL PRICES

Prices in $ per bbl. of 42 U. S. gals. at the well. A. P. I. gravity. Prices are effective as of 7 a. m. of dates shown.

CALIFORNIA

Posted by S. O. California, May 23, 1941

(All gravities above those quoted take highest price offered in that field)

Gravity	Signal Hill (Long Beach)	Wilmington	El Segundo	Seal Beach	Huntington Beach	Inglewood	Olinda Brea Canon	Athens-Rosecrans	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Greeley, Canal, Wasco	Coles Levee	Mountain View	Elk Hills, Buena Vista Hills Midway-Sunset, Lakeview Area	Lost Hills	Coalinga	Gravity
14-14.9	....	$0.68	....	....	$0.71	....	$0.70	....	$0.70	$0.70	$0.70	$0.72	....	....	....	....	....	$0.73	$0.73	$0.73	14-14.9
15-15.9	....	.71	....	....	.75	$0.76	.72	....	.72	.71	.72	.72	....	....	....	....	....	.73	.73	.73	15-15.9
16-16.9	....	.74	$0.79	....	.79	.79	.75	....	.74	.73	.75	.72	....	....	....	....	....	.73	.75	.73	16-16.9
17-17.9	....	.78	.82	....	.82	.82	.78	....	.77	.76	.78	.72	....	....	....	....	....	.75	.78	.73	17-17.9
18-18.9	$0.80	.82	.86	....	.86	.85	.81	....	.80	.79	.82	.74	....	....	....	....	....	.78	.81	.73	18-18.9
19-19.9	.84	.86	.90	....	.89	.88	.85	....	.83	.82	.85	.77	....	....	....	....	$0.73	.81	.84	.75	19-19.9
20-20.9	.88	.90	.94	....	.93	.92	.88	....	.86	.85	.89	.80	....	....	....	....	.76	.85	.87	.77	20-20.9
21-21.9	.92	.94	.98	....	.96	.95	.91	....	.89	.89	.92	.84	....	....	....	....	.79	.90	.90	.80	21-21.9
22-22.9	.96	.98	1.02	$0.88	.99	.98	.95	....	.93	.93	.96	.87	....	....	....	....	.83	.94	.93	.83	22-22.9
23-23.9	1.00	1.02	1.05	.92	1.02	1.01	.98	....	.97	.98	1.00	.91	....	....	....	....	.87	.99	.96	.86	23-23.9
24-24.9	1.03	1.06	1.07	.97	1.05	1.04	1.01	....	1.01	1.02	1.03	.94	$0.99	....	....	....	.90	1.03	.99	.89	24-24.9
25-25.9	1.07	1.09	1.10	1.01	1.08	1.07	1.04	....	1.05	1.06	1.07	.98	1.02	....	....	....	.94	1.07	1.01	.92	25-25.9
26-26.9	1.11	1.12	1.12	1.06	1.11	1.10	1.08	....	1.09	1.10	1.11	1.01	1.06	....	....	....	.97	1.11	1.04	.95	26-26.9
27-27.9	1.15	1.15	1.15	1.10	1.14	1.14	1.11	....	1.13	....	1.15	1.05	1.10	$1.04	....	....	1.01	1.15	1.07	.98	27-27.9
28-28.9	1.18	1.18	1.17	1.15	1.17	1.17	1.14	....	1.17	....	....	1.08	1.13	1.08	....	....	1.04	1.19	1.10	1.00	28-28.9
29-29.9	1.20	1.21	....	1.19	1.20	1.20	....	$1.17	....	....	....	1.12	1.17	1.12	....	....	1.07	1.24	1.13	1.02	29-29.9
30-30.9	1.23	1.24	....	....	1.23	1.22	....	1.21	....	Elwood	....	1.15	1.21	1.15	$1.01	$1.09	1.10	1.28	1.16	1.04	30-30.9
31-31.9	....	....	....	....	....	1.24	....	1.25	....	Terrace	....	1.19	1.24	1.19	1.04	1.12	1.14	....	.....	1.06	31-31.9
32-32.9	....	....	....	....	....	....	....	1.29	....	F.o.b. Ship	....	1.23	1.28	1.23	1.07	1.14	1.17	....	....	1.09	32-32.9
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.22	....	1.27	....	1.26	1.10	1.17	....	....	....	1.11	33-33.9
34-34.9	Kettleman Hills							1.36	....	1.25	....	1.31	....	1.30	1.13	1.20	....	....	....	1.13	34-34.9
35-35.9	....	$1.23	....	....	....	....	....	....	....	1.28	....	1.35	....	....	1.16	1.22	....	....	....	.....	35-35.9
36-36.9	....	1.26	....	....	....	....	....	....	....	....	....	1.39	....	....	1.19	1.25	....	....	....	.....	36-36.9
37-37.9	....	1.29	....	....	....	....	....	....	....	....	....	1.43	....	....	1.22	....	....	....	....	.....	37-37.9
38-38.9	....	....	....	....	....	....	....	....	....	....	....	1.47	....	....	1.25	....	....	....	....	.....	38-38.9
39-39.9	....	....	....	....	....	....	....	....	....	....	....	1.51	....	....	....	....	....	....	....	.....	39-39.9
40-40.9	....	....	....	....	....	....	....	....	....	....	....	1.53	....	....	....	....	....	....	....	.....	40-40.9

Playa Del Rey: (FOB Standard Pipe Line) 20-20.9, $0.80; 21-21.9, $0.84; 22-22.9, $0.87.
Wheeler Ridge: 22-22.9, $0.76; 23-23.9, $0.80; 24-24.9, $0.83.
Newhall, Kern River, Kern Front, McKittrick & Round Mountain: 14-14.9, $0.73.

LOUISIANA-ARKANSAS

Posted by S. O. Louisiana, May 22, '41

Gravity	Atlanta, Ark. et al.	De Soto, La. et al.	Rodessa, La. et al.	Bunkie, La. et al.	Darrow, La. et al.	University, La.* (Baton Rouge) Shallow Production
40 & Above	$1.08	$1.18	$1.20	$1.30	$1.30	$1.48
39-39.9	1.06	1.16	1.18	1.28	1.28	1.46
38-38.9	1.04	1.14	1.16	1.26	1.26	1.44
37-37.9	1.02	1.12	1.14	1.24	1.24	1.42
36-36.9	1.00	1.10	1.12	1.22	1.22	1.40
35-35.9	.98	1.08	1.10	1.20	1.20	1.38
34-34.9	.96	1.06	1.08	1.18	1.18	1.36
33-33.9	.94	1.04	1.06	1.16	1.16	1.34
32-32.9	.92	1.02	1.04	1.14	1.14	1.32
31-31.9	.90	1.00	1.02	1.12	1.12	1.30
30-30.9	.88	.98	1.00	1.10	1.10	1.28
29-29.9	.86	.96	.98	1.08	1.08	1.26
28-28.9	.84	.94	.96	1.06	1.06	1.24
27-27.9	.82	.92	.94	1.04	1.04	1.22
26-26.9	.80	.90	.92	1.02	1.02	1.20
25-25.9	.78	.88	.90	1.00	1.00	1.18
Below 25	....	.86	.88	.98	....	....
24-24.9	.76	....	.88	....	.98	1.16
23-23.9	.74	....	.86	....	.96	1.14
22-22.9	.72	....	.84	....	.94	1.12
21-21.9	.70	....	.82	....	.92	1.10
Below 21	.68	....	.80	....	.90	....
20-20.9	....	....	....	....	....	1.08
Below 20	....	....	....	....	....	1.06

*Posted July 2, '42.

Atlanta schedule includes Buckner, Lewisville, Magnolia, Village & Schuler (Jones Sand), Ark.

De Soto schedule includes Sabine, Fouke, Homer, Miller co., Nebo & Sugar Creek, Lake St. Jonn (4500 ft. prod.) Sept. 5, '42.

Rodessa schedule includes Cotton Valley & Shreveport (Cross Lake) ending with Below 25 at $0.88; Anse La Butte (Aug. 1, '41); Caddo (Oct. 15, 1941).

Bunkie schedule includes Eola, Olla, South Olla, Pine Prairie (May 21, '42), and University (Baton Rouge) Deep Production (May 22, '42).

Darrow schedule includes Bayou Mallet, Choctaw, Jeanerette, Lirette, N. & S. Crowley, Port Allen, Port Barre, Potash, Roanoke, & St. Martinville.

Big Creek, Dorcheat, McKamie, Distillates (Sour) $1.15
Heavy Smackover Crude ..... .83
Cotton Valley Distillate (Sept. 1, '41) 1.40
Cotton Valley (Holloway Sand Crude) 1.25
Lisbon Distillate 1.20

(Continued next column)

LOUISIANA-ARKANSAS (Cont'd)

Posted by Shell Oil Co., Inc. (May 20, '41)

Gravity	Iowa	Roanoke	Gibson
Below 20	$0.99	$0.94	$0.89
20-20.9	1.01	.96	.91
21-21.9	1.03	.98	.93
22-22.9	1.05	1.00	.95
23-23.9	1.07	1.02	.97
24-24.9	1.09	1.04	.99
25-25.9	1.11	1.06	1.01
26-26.9	1.13	1.08	1.03
27-27.9	1.15	1.10	1.05
28-28.9	1.17	1.12	1.07
29-29.9	1.19	1.14	1.09
30-30.9	1.21	1.16	1.11
31-31.9	1.23	1.18	1.13
32-32.9	1.25	1.20	1.15
33-33.9	1.27	1.22	1.17
34 & above	1.29	1.24	1.19

Iowa schedule includes Black Bayou & White Castle La. fields.

Roanoke schedule includes Chalkley, La. field.

Gibson schedule includes S. Houma, Hester & W. Lake Verret, La. fields.

Happytown field, St. Martin Par., La. $1.15

Posted by Arkansas Fuel Oil Corp.

Urania, La. (May 22, '41) $1.15

Posted by Continental Oil Co. (May 21, '41)

Tepetate, La. $1.18
Ville Platte, La. 1.20
Lake Arthur, La. 1.18
Ritchie, La. (Sept. 1, '41) 1.08

Abbeville, La.

Below 36 $1.07	37-37.9 $1.11	39-39.9 $1.15	
36-36.9 1.09	38-38.9 1.13	40 & above 1.17	

CANADIAN FIELDS

Posted by Imperial Oil Limited

Western Ontario (Nov. 6, 1939)

Petrolia ..... $2.10 Oil Springs $2.17

Turner Valley Crude Oil (July 16, '41)

(Prices FOB producer's tankage)

33-33.9 $1.35	44-44.9 $1.57	55-55.9 $1.79	
34-34.9 1.37	45-45.9 1.59	56-56.9 1.81	
35-35.9 1.39	46-46.9 1.61	57-57.9 1.83	
36-36.9 1.41	47-47.9 1.63	58-58.9 1.85	
37-37.9 1.43	48-48.9 1.65	59-59.9 1.87	
38-38.9 1.45	49-49.9 1.67	60-60.9 1.89	
39-39.9 1.47	50-50.9 1.69	61-61.9 1.91	
40-40.9 1.49	51-51.9 1.71	62-62.9 1.93	
41-41.9 1.51	52-52.9 1.73	63-63.9 1.95	
42-42.9 1.53	53-53.9 1.75	64 & over 1.97	
43-43.9 1.55	54-54.9 1.77		

Absorption Gasoline (July 16, '41)

90% Rec., 20 lb. Reid v.p. $2.28
90% Rec., 17 lb. Reid v.p. 2.44

ROCKY MOUNTAIN FIELDS

Posted by Stanolind Oil & Gas Co. (May 20, '41)

Salt Creek (except Tensleep crude), Midway & Dutton Creek, Wyo.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12	
29-29.9 .98	33-33.9 1.06	37-37.9 1.14	
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16	
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18	
		40 & above 1.20	

Wyoming:		Wyoming:	
Tensleep Crude	$0.6785	Grass Creek Light	$1.00
Frannie Light	.70	Grass Creek Heavy	.50
Frannie Heavy	.47	Elk Basin	1.00
Hamilton Dome	.45	Hes, Colo.	1.07

Posted by Ohio Oil Co. (May 20, '41)

Elk Basin, Wyo. $1.00
Grass Creek Wyo., Light 1.00
Rock Creek, Wyo. 1.15
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Continental Oil Co. (May 21, '41)

Ft. Collins & Wellington, Col.

Below 29 $0.96	32-32.9 $1.04	36-36.9 $1.12	
29-29.9 .98	33-33.9 1.06	37-37.9 1.14	
30-30.9 1.00	34-34.9 1.08	38-38.9 1.16	
31-31.9 1.02	35-35.9 1.10	39-39.9 1.18	
		40 & above 1.20	

Canon City & Florence, Col. $1.05
Cat Creek, Mont. 1.15
Big Muddy, Wyo., (May 30, '41) $1.08
Lance Creek, Wyo., (July 1, '41) 1.12

Posted by Independent Pipe Line Co. (Aug. 1, '41)

Falls City, Neb., field price $0.90
Falls City, Neb., loaded in tank cars 0.95
Shubert, Neb., loaded in tank cars 0.97

SOUTHEASTERN FIELDS

Posted by Allied Pipe Line Corp.

Tinsley (Miss.) Crude (Oct. 16, '41)

24-24.9 $0.745	32-32.9 $0.905		
25-25.9 .765	33-33.9 .925		
26-26.9 .785	34-34.9 .945		
27-27.9 .805	35-35.9 .965		
28-28.9 .825	36-36.9 .985		
29-29.9 .845	37-37.9 1.005		
30-30.9 .865	38-38.9 1.025		
31-31.9 .885	39-39.9 1.045		
	40 & above 1.065		

Pickens (Miss.) Crude (Dec. 16, '41)

24-24.9 $0.685	32-32.9 $0.845		
25-25.9 .705	33-33.9 .865		
26-26.9 .725	34-34.9 .885		
27-27.9 .745	35-35.9 .905		
28-28.9 .765	36-36.9 .925		
29-29.9 .785	37-37.9 .945		
30-30.9 .805	38-38.9 .965		
31-31.9 .825	39-39.9 .985		
	40 & above 1.005		

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PERSONALS

C. V. Humphreys, refinery engineer for Abasand Oils Limited since last March, has been appointed assistant general manager, **Max W. Ball,** president and managing director, announces.

Mr. Humphreys began his refinery experience with Indiana Standard. Later, he held superintendent's positions with Imperial Oil Ltd.; then joined the staff of M. W. Kellogg & Co.; and from 1932 until March, 1942, was in consulting practice in Winnipeg, building and designing plants both in Canada and the U. S. Mr. Humphreys is moving his residence to Edmonton, Canada.

° ° °

C. B. Evans, assistant manager (wholesale) of the Chicago division of Indiana Standard, will be transferred on Oct. 1 to Joliet, Ill., as an additional assistant manager. This move follows consolidation of part of the Quincy, Ill., division with the Joliet division. Mr Evans joined the company in 1922.

J. M. Hamer, assistant manager (reseller) at Detroit, Mich., will be transferred to Chicago where he will become assistant manager (wholesale) in the sales division to succeed Mr. Evans. **W. H. Miller,** sales promoter reseller) in the Chicago Office, will take Mr. Hamer's place in Detroit. Mr. Hamer joined Indiana Standard in 1923; Mr. Miller in 1929.

° ° °

Two states—Louisiana and Iowa—have picked oil men as American Legion "Men of the Year" candidates for the $1000 Lewis S. Rosentiel award which goes to the legionnaire who has performed the most useful community service during the year. The award is given annually by Mr. Rosentiel, who is board chairman of Schenley Distillers Corp.

The two oil men are **William M. Kaloupeck,** Grinnell, Ia., of Home Oil Co., and **Louis Seibert,** Shreveport, La., of Gulf Refining.

Mr. Kaloupeck, an oil jobber, organized campaigns for scrap salvage, war bond sales and air raid defense in Grinnell and is chairman of the city's civilian defense committee. He is a member of the local rationing board and took an active part in a drive for collecting books to be sent to men in the armed forces. Mr. Kaloupeck belongs to the county child welfare board; is chairman of the campaign to raise funds for the Boy Scouts; and was in charge of the Navy Day parade and celebration in Grinnell.

Mr. Seibert was instrumental in establishing one of the first service men's information centers in the South. He is chairman of the program and publicity committee of the city park board, and a member of the advisory committee of the local WPA recreational project. He is active in Boy Scout work and in local defense council.

George Sawtelle, new director of OPC's Facility Security Division in District 3, will carry on in that capacity the efforts for wartime protection of oil fields he has been contributing as president of Mid-Continent Oil & Gas Assn. The association's field protection work will also be transferred to the new OPC Division.

° ° °

The drafting of **E. H. Moore,** of Tulsa to serve as Republican candidate for the United States Senate marked the first time in Oklahoma history a lifelong Democrat has run for a major office on the Republican ticket. Mr. Moore, independent oil operator and president of E. H. Moore, Inc., was selected by the Republican State Central Committee to replace former **Sen. W. B. Pine.** An independent Democrat and leader in the Willkie campaign, he is planning a vigorous opposition to Democratic Senator Josh Lee in the six weeks remaining before elections.

° ° °

Charles M. Webber, Washington, senior analyst in OPC's natural gas and natural gasoline division, is now the father of "Opie" (nicknamed for OPC), a son born to Mrs. Webber at Memorial Hospital, Houston, Tex., Sept. 8. "Opie" and parents are doing nicely. Mr. Webber (formerly with Humble) made a flying trip to Houston for the event but is back at his desk again now.

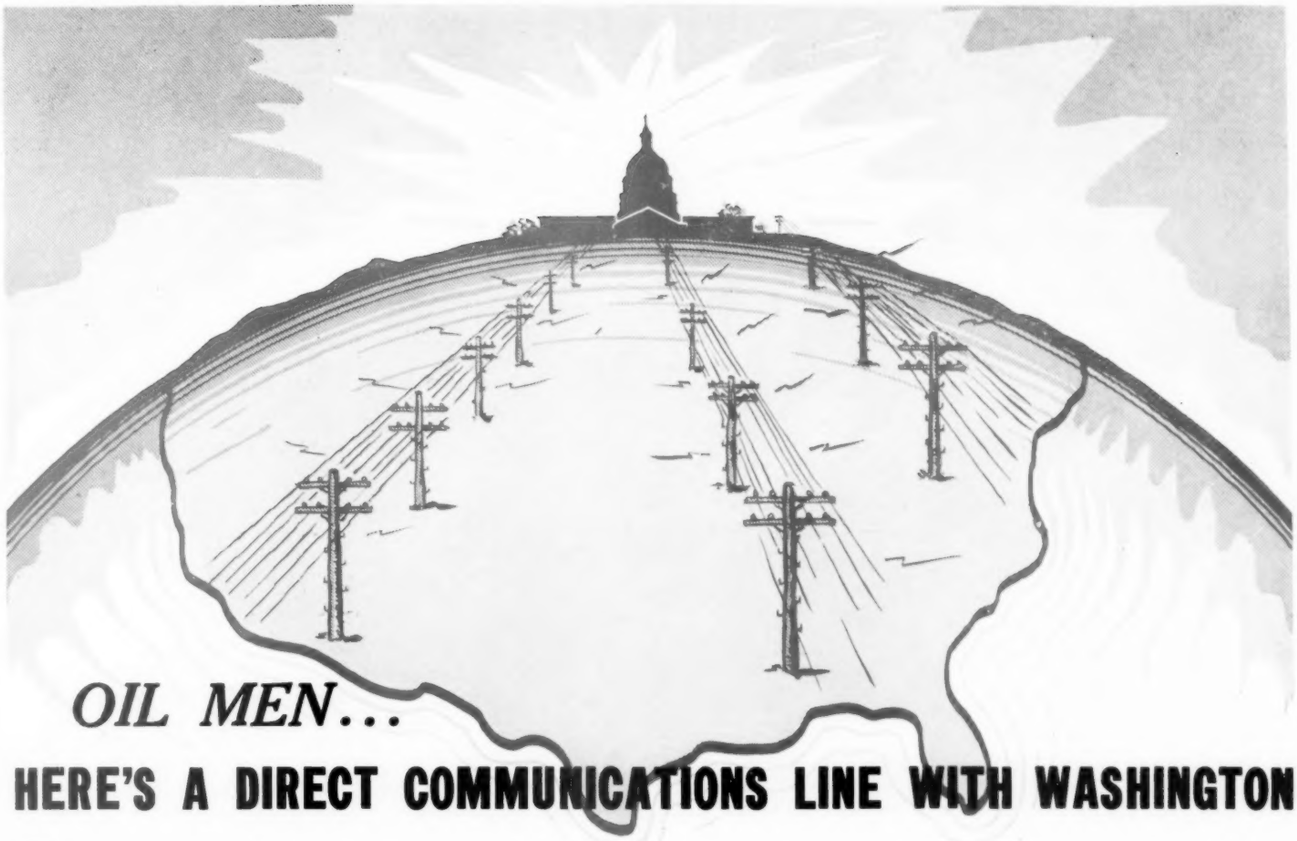
° ° °

Stanley W. Crosthwait, Washington, former executive officer for OPC, is now a major in the U. S. Air Corps, and for the present is stationed in Washington. Mr. Crosthwait had been with OPC ever since its formation in June, 1941. Glenn D. Thompson, assistant executive officer and **E. J. Skidmore,** special assistant, are now holding the fort.

° ° °

Presiding at a luncheon session of the Controllers Institute of America's annual meeting will be **T. C. McCobb,** controller and director of New Jersey Standard Oil Co. Other oil executives who will participate in the convention to be held at the Palmer House, Chicago, Sept. 21-23 will be: **E. Chester Peet,** Shell Oil Co. controller; **Frank S. Reitzel,** assistant to the president and controller, Sun Oil Co.; and **Maxwell E. MacDowell,** tax department head, New Jersey Standard.

Although more at home when "riding the airwaves" than he would be on a western bronco, Cowboy Radio Commentator Earl Godwin, nevertheless, is the recipient of a 10-gal. hat and other cowhand paraphernalia for having "plugged" the Petroleum Industry War Council's nationwide scrap rubber drive harder than any radio commentator. P.I.W.C. Chairman William R. Boyd, Jr. (right) has just made the presentation



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